

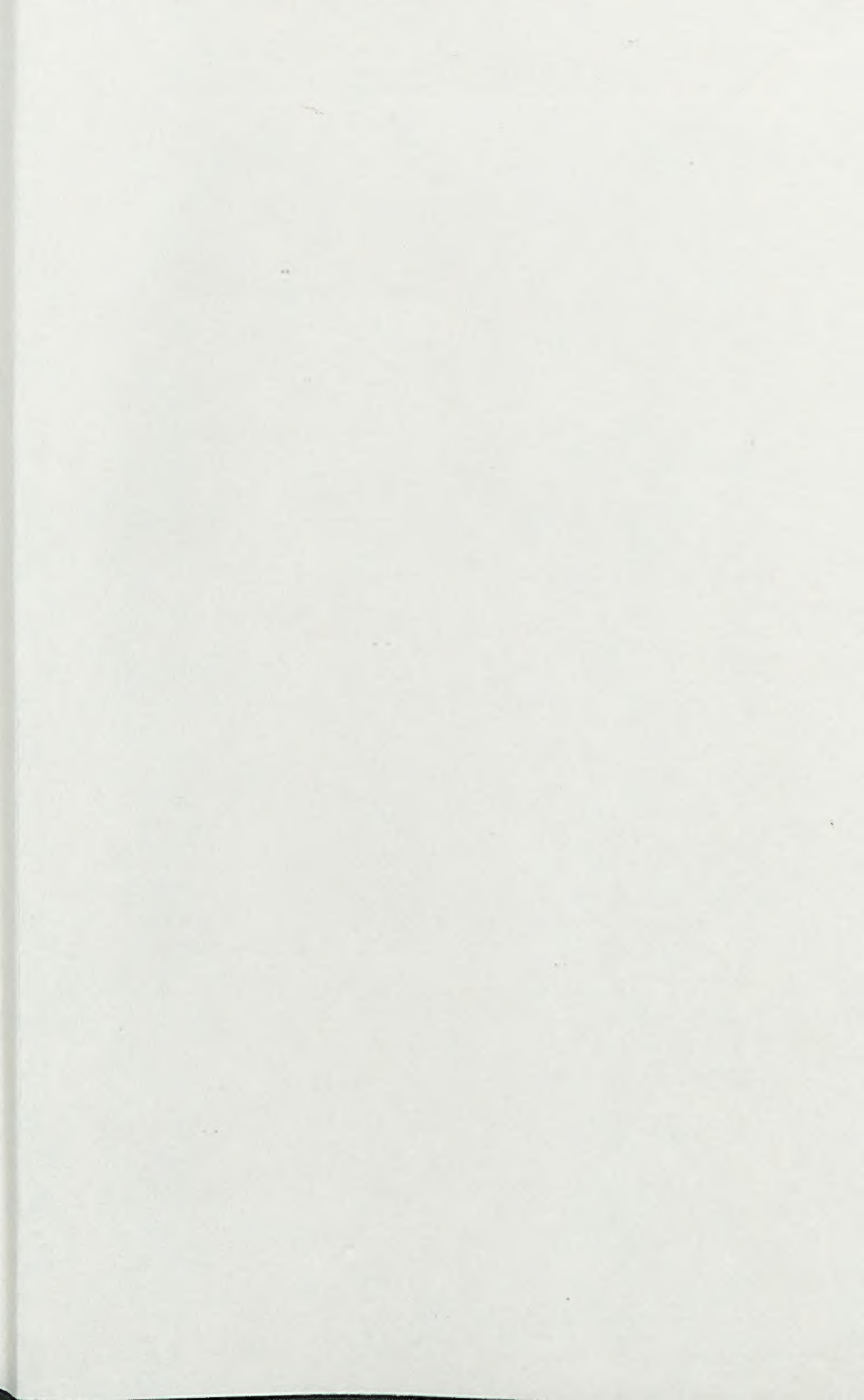




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# ORCHID REVIEW

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**Advertising and Subscriptions to Publication Manager:**  
Elizabeth Lowe, 14 McGill Street, Lewisham, NSW 2049.  
Phone (02) 560 6166.

**SUBSCRIPTIONS.** 1985/1986 within Australia \$33.00. 1985 \$18.00. Overseas surface 1985/1986 \$37.00. 1985 \$20.00. Airmail. NZ 1985/1986 \$42.00, 1985 \$24.00. All other. 1985/1986 \$56.00, 1985 \$31.00.

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Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA 27936

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**PRINTCRAFT PRESS PTY LTD**  
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# AUSTRALIAN ORCHID REVIEW

VOLUME 50 — No. 1

AUTUMN 1985

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## COVER STORY

Mr Ray Dean of Eldorado Orchids has flowered *Dendrobium pieradii* 'Fred' to this standard, or better, for many years. The photo was taken at the time it received a Cultural Commendation. The plant is in a slot basket with coarse Australian bark as a holding medium. It grows in a glasshouse about two metres from the ground and one metre from the white-painted glass. It is fed with poultry manure when the new growth is about five centimetres long. Also liquid fertiliser when the whole house is sprayed. Watering is nearly every day in summer, and once or twice a week in winter, generally by overhead sprays.

To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in *italics*. In society bulletins and on place-cards *italics* can be indicated by underlining.



# Equitant Oncidiums

— L.V.A. MOUNTFORD

Photos: L. Mountford

All illustrations greatly enlarged.

I have grown these little beauties now since early 1982 — not a long time — granted — but long enough to have lost a few and grown hundreds to where they are approaching flowering size. Approximately 30 plants, so far, have flowered and many have flowered again from the secondary inflorescence.

In all fairness I will admit to being a little disappointed in a number of the crosses which have so far flowered. However, there are always those plants whose flowers give one the greatest of pleasure and satisfaction.

To name a few of the crosses where flowers have, in my opinion, something going for them I would say: *O. Valvanna* x *O. Anne Shield*, a clear bright yellow with a red that is 'almost' black. *O. Misty Pink* x *O. pulchellum*, a beautiful rich royal pink. *O. William Thurston* 'Orchidglade', yellow and red and spotted. *O. Wilbur* 'Wilma', white with red spots.

The above flowers are of showbench quality and I do expect the flowering to be much better in years to come.

**Housing.** A 7.3 m x 5.2 m Ritelite glasshouse (north-south aspect is mandatory). The eastern wall has a 5 m x 1.7 m weldmesh frame covered with 25 mm galvanised wire-mesh. The top of the frame is approximately 2.4 m from the floor. Another weldmesh frame 2.75 m x 1.2 m hangs from the mid-roof beam and is east-west (faces due north) and is also covered with 25 mm-square wire mesh. Another two sheets of weldmesh are situated against the back (south) wall, one either side of the door.

**Light.** Very, very bright on the hanging mid-frame, the frame on the eastern wall is not as bright. The two frames against the back (south) wall are more protected by 50 per cent and 75 per cent Sarlon on the roof. The rear of the hanging mid-frame is very shaded (faces south).



Golden Sunset 'Mary Ray Marshman'

**Precipitation.** Sometimes as frequently as three occasions per day on very hot, dry days. The misting sprays are turned on for approximately 5-8 minutes. Generally most of the glasshouse is misted daily in the hot weather and even on days where there is an intermittent cloud cover and reasonably-sunny periods. Otherwise I hand-water the equitants if there is no need for a general watering. I have often watered after tea.

The misting system is comprised of poly-pipe 12 mm, with plastic nozzles from Percival Products. The system has been installed in the roof area. Attachments are the plastic garden 'click-on' type.

**Fertiliser.** The plants are generally fertilised by a hand-spray with the following ingredients in a nine-litre bucket — a level teaspoon of Aquasol (or equivalent), a pinch of iron chelates and a squirt of Formula 20 or

Hormone 20. If enough rainwater is available, it is used instead of town water.

The plants, having been misted by the watering system, are then fertilised. Often I have fertilised 'dry' plants. Notwithstanding a popular belief that no plant should be fertilised unless it is firstly watered, I do! I must point out that on the odd occasion I would be forced to use more than nine litres of water and fertiliser mixture so I pour a portion of the prepared mixture into another bucket and perhaps another four litres of water is added (two litres to each container). Therefore the strength of the fertilising liquid is **very** weak and I have found no evidence of any damage from over-fertilising. Throughout the house I can attach my Magamp dispenser (home-made type). Without counting I would estimate that I have used the Magamp dispenser at least once a fortnight during 1984 and usually the water is left on for 8-10 minutes. The active ingredients in the Magamp are released very slowly. I would hand-fertilise the plants at least three times per week. As I have many other small plants of species and miscellaneous genera, cuttings of this and that, I find that I can and do, spray different plants more frequently than others, particularly those on cork and those with large medium used in the pots. Some plants don't get a good soak from the misting system and they need a little extra water and feeding from time to time.

**Ventilation.** The glass in a Ritelite glasshouse will slide sideways so any sheet/sheets may be moved to give whatever air movement is required. Two 90 cm, three-blade, variable-speed fans are mounted from the mid-beam, 1.8 m from each end. As mentioned previously a swinging mesh frame hangs mid-way virtually dividing the glasshouse into two 5.2 m x 3.7 m sections. A rear (southerly aspect) sliding door gives a 1.2 m opening that will allow a good passage of air from the potting/storage shed at the rear.

On very hot days a fan placed in the doorway facing into the glasshouse, will blow cooler air into the glasshouse from the cooler and protected shed area. The hot, dry air leaves the house via open panels in the roof at the northern end of the house. The fan is only turned on when the temperature climbs to 95°F (34°C) plus (if someone is at home when it gets this hot. No automation yet). There is usually a reasonably-good flow of air through the glasshouse (south to north) carry-



*Onc. Susan Perreira x Onc. Lillian  
Dugger 'Roby Yavour'*

ing cooler air to the front of the house. As well the fans are moving the air downwards to collect moisture, then up the sides to transport the moisture-laden air to the equitants and other orchids on cork.

I am installing an exhaust fan at the north end to dispose of the hot, dry air in this section. I hope to have a further system to introduce cool moist air into the house from two points at the eastern side. With both systems governed by a thermostat I should have little trouble with the complex overheating problem.

**Temperatures.** One afternoon in December 1983 the temperature in the front section reached 116°F (46°C) maximum. I have no idea of the duration of time the temperature exceeded 100°F (38°C). I misted when I arrived home and gave the front section a good soak. I have NO shade cloth on the front 3.7 m of roof at all and it therefore would have taken the full sunlight. Some subsequent burning of leaves was noticed, however, I did not lose any plants to my knowledge. Upon reflection the temperature may have exceeded 38°C for up to five hours. Plants scorched were a vanda and some cattleyas.

Temperatures in August 1983 were quite cold and I had the crudest heating one could



imagine. I joke about the one small heating fan keeping a warm stream of air near the equitants. However, I did lose a few before the warmer weather set in. This I attributed to the sphagnum moss, being moist and cold, damped off the plants. In all fairness, the plants had gone through an earlier period of a month in July where they were temporarily housed and I could not be sure that the plants would have survived anyway. I think a minimum of 6°C to 8°C was experienced and here again not many visible problems were encountered owing to the cold. Most noticeable was the inactivity of the root growth.

**Humidity.** This is quite high due to (1) regular mistings, (2) many pots in the area, and (3) floor area completely covered with fine blue metal which holds a large quantity of water. The overhead fans also help to keep the humidity around the plants.

**Growing medium.** Originally I had grown the equitants on pressed-cork pieces (100 mm x 50 mm x 10 mm) as a part of another society's plant-growing program. I soon discovered the need (I thought) for a larger piece of medium. I felt that the equitants looked cramped and the roots soon reached the edge of the small piece of pressed cork. I felt that this 'new' (to me) virgin-cork bark from Portugal was the ideal medium for the following reasons. (1) A long-lasting, natural medium which gave the appearance of not being readily broken down. (2) To date selected orchids grown on it have a more healthier root system. (3) It was light and easy to work with and would not break down as compressed cork does. (4) It appeared not to be susceptible to the build-up of salts like some other products. (5) It came in just about any shape and size you wanted — from long and thin, short and thick, large or small and can be flat, wavy, lumpy, gnarled or knotted.

My initial observations of the root growth of equitants on the pressed cork was that it took some plants a considerable time to establish what I consider to be a reasonable issue of roots.

During and following the construction of the new glasshouse (August 1983) I spent evenings remounting all the equitants **from** pressed cork **to** virgin cork. Within a month new roots were anchoring the plant to the cork. New growths soon appeared on some of the bigger plants, then flowered.

I have lost a number of very small plants —

but generally, results were very pleasing. The weather in 1984 has been more than agreeable for equitants as some plants produced new roots within a fortnight of mounting. I would point out that some crosses grow better and have a more vigorous root system than others. Some crosses have flowered from quite small plants very soon after mounting from community pots just out of quarantine from Hawaii. Some plants I have had for some time and although they are quite large plants, they are yet to flower.

I strongly support the statement 'what is cold and wet requires considerable energy to warm up'. A piece of cork logically would need little energy to keep reasonably warm. In winter, fluctuating temperatures in an enclosed environment, such as a glasshouse, would in my opinion, not be to the detriment of the plant. In the day time any moisture/humidity would be absorbed by the roots. Then during the night time when the heating system is operational, additional humidity is absorbed by the roots of epiphytic orchids not confined within a medium in a pot.

Plants on cork would enjoy the advantage of an almost trouble-free root system as against other plants whose roots are confined within a medium in a pot. The exception would be plants grown in a medium of cork pieces as this type of medium will dry out very quickly after watering. Extreme care should be taken when selecting plants to be grown in this manner. One point to remember is you will never over-water.

**Mediums.** Those that are cold and damp must have a tendency to accelerate the plant into a dormant state (stop growing). The last thing one needs is to have your equitants stop growing. I do know of some growers of equitants who don't have heat but they live near the sea. Growers who live in the mountains or the foothills and don't have a heated glasshouse may be able to grow these little 'gems' if they have a few basic requirements. (1) Time. (2) A room with a northerly aspect. Equitants would grow fairly well during the period September-April out in a bush-house but from May to late August they would prefer to have a warm bed for the night (inside). Imagine this — she says 'Darling, put the cat out and bring in the equitants'.

To grow inside you would need some air movement and your plant would most likely enjoy being suspended over a container of water or the stones in the water trick. (You can





*Oncidium Stanley Smith x O. Middlesex*  
'Mt. Ford'

grow phalaenopsis inside as well this way). Ensure there is enough warmth and light on your plants during the day and provide the moisture required (as above). Give frequent misting with an atomiser containing a very weak solution of a fertiliser and Formula 20 or Hormone 20 at the recommended rate.

Earlier I mentioned growing equitants in a medium of natural cork pieces. I obtain my cork pieces from off-cuts. Very fine pieces are collected after I have sawn a quantity of slabs. Other sizes are obtained by breaking up odd and unusable pieces previously discarded, and place in a special bin. As I need to put up an orchid (any kind), I select the pot, then work out roughly how much cork I'll need, then I sit down and quietly break it up to the required sizes, ie larger at the bottom to smaller at the top.

When potting up plants using natural cork **ONLY as a medium** as I mentioned earlier, choose your plant/cork size to suit. By this I mean it wouldn't be wise to pot up a *Cattleya* in a 2 mm-4 mm size cork, or pot a seedling up in say 4 cm-piece of cork.

For equitants I chose one each of these crosses made available to HDOS members for an experiment in cork-only medium with terracotta pots. The cork was 'off-cuts' from pieces used to mount the 'societies equitants'. I was going to use all the one cross but thought that this may not really give a true picture. The pieces of cork were triangular

'off-cuts' and were placed end up in the pot and trimmed level — the equitant was then placed in a crevice then other pieces of a smaller size were wedged in to firm the equitant in place. Some granulated cork was placed on top as dressing and to stop some of the evaporation. Plants were watered and fed the same as the others **but** have not grown as well as some of the others on cork. The main reason being that plants on the cork had a small wad or pad of sphagnum moss placed on the root mass to prevent excessive loss of moisture at the roots till the plant had established itself — once established on the cork I remove the ties and sphagnum.

The equitants in the pots however, had no sphagnum and were reliant solely on sustenance from the moisture contained within the cork pieces and regular feeding. The terracotta pot would accelerate the evaporation of moisture from the pieces of cork on a hot day at, perhaps, a lesser rate than on the cork slab. **But** plants on the cork slab would be able to absorb moisture through their roots from the humidity within the glasshouse, thus having an advantage over potted plants.

Equitants are naturally found growing on twigs or small trees/bushes — so pot culture would be unnatural. These orchids may also be grown in small teak baskets.

I prefer to mount my equitants on a reasonable-size piece of virgin cork. This allows the roots to attach themselves to more of the medium, therefore the more active the root system the more nutriment the plant will be able to take in and use — resulting in longer and stronger peduncles with (hopefully) more and larger flowers. Individual pieces of cork maybe 8 cm to 12 cm to 12 cm x 15 cm. I also have others on large feature pieces of cork.

Later on I would like to attach about 30 or more equitants onto one large piece of cork purely for the spectacular display when they are all in flower. As most crosses vary considerably in colour, size and shape such an exercise would be a talking point at a meeting.

*Onc. pulchellum* and *O. variegatum* are two of the more frequently seen equitants. *Psycmorchis pusilla* was previously *O. pusillum* (also an equitant).

Much has been done in the hybridising of these orchids and the future should give us more varied colours and shapes.

# pH and acidity

A balanced intake of nutrients is best taken up by a plant when the soil or growing medium has a pH between 6 and 6.5. Some nutrients may not be fully absorbed at higher or lower levels. pH test cards can be bought from scientific instrument firms and some nurseries.

F.W. CRADOCK

## A talk given at the Fourth Australian Orchid Conference.

**Introduction.** pH is a measure of a concentration of hydrogen ions in solution and is represented on a scale from 1 to 14. pH 1 is very acid, pH 14 is very alkaline, pH 7 is neutral or the pH of distilled water. Most normal soils have a pH between 5.5 and 6.5. Problems can be expected in relation to acidity where the pH is below 5.0 or the pH is above 7.

**Definition.** pH is a measure of the hydrogen concentration ions in the soil and for those interested in chemistry the equations below may help in understanding.

pH 1 =  $10^{-1}$  = 1/10 moles/litre

pH 2 =  $10^{-2}$  = 1/100 moles/litre

pH 7 =  $10^{-7}$  = 1/10,000,000 moles/litre

pH 14 =  $10^{-14}$  = 1/10<sup>14</sup> moles/litre

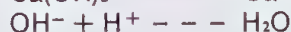
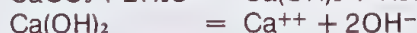
When a solution contains  $10^{-1}$  hydrogen ions it has  $10^{-13}$  hydroxyl ions. Although worthwhile we need not go into the methods of pH but it is defined as a minus the logarithm of the hydrogen ion concentration and the conversion to the pH table was worked out by a Danish chemist called Sorenson.

**Measurement.** Soil pH is usually measured with (a) pH meter. A glass electrode and a reference electrode of constant potential is used, both dipping into the suspension, with a means of measuring the difference between these two electrodes. This potential difference depends on the pH and the dial of the meter is calibrated directly in pH units. This is the more accurate of the two methods, or pH may be measured with (b) colorimetric indicators. These are organic substances in solution which change colour at a given pH. By mixing a number of suitable indicators each changing colour at different pH's between 3 and 10 and each having a different colour, a mixture can be obtained which when compared with a suitable colour card will give a satisfactory measure of any soil pH in the

range of 3 to 10.

Such indicator mixtures have been called universal indicators. CSIRO Indicator Kit devised by Raupach is one of the best colorimetric indicators.

**Correcting Acidity.** The usual material used is lime — calcium carbonate ( $\text{CaCO}_3$ ). Slaked lime  $\text{Ca(OH)}_2$  and quick lime  $\text{CaO}$  are sometimes used. Lime acts by releasing  $\text{OH}^-$  ions into solution which react with the  $\text{H}^+$  in the soil solution to form water thus reducing the  $\text{H}^+$  ion concentration. The following equations illustrate the main chemical reactions involved.



Slaked lime and quick lime give  $\text{Ca(OH)}_2$  in the soil solution and react in the same way.

## Effect of pH on Nutrient Availability

(I) *Nitrogen.* As soil pH becomes strongly acid the soil flora responsible for releasing nitrogen from organic matter cannot operate so well. Those which convert ammonia to nitrate — the readily-available form, are affected first by falling pH. Nitrogen accumulation also drops since legume species, at least in temperate areas, do not fix much nitrogen at low pH's. Above about 8.5 the soil becomes too alkaline for soil flora and legumes.

(II) *Phosphorus.* As pH drops more iron and aluminium come into play and precipitate phosphorus in unavailable forms. Above pH 7.5-7.8 a reduction in availability takes place due to a precipitation of phosphorus as insoluble calcium phosphate. While above 8.8 sodium phosphates are formed and these are readily soluble and, theoretically at least, more available.



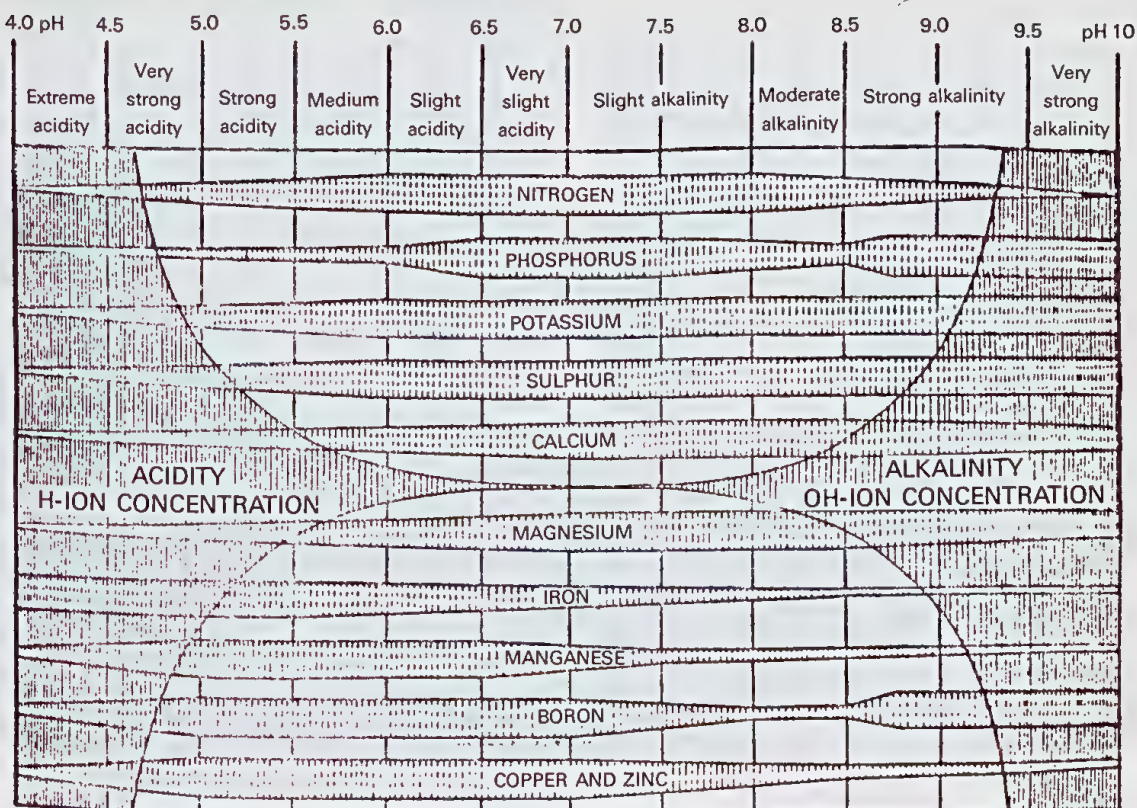


FIGURE 1. The availability of nutrient elements in relation to pH. The width of the band indicates the relative degree of availability over the pH range of 4 to 10. (University of Wisconsin).

### (III) Potassium, Calcium, Magnesium.

These can be considered together. Broadly, as the pH falls there are less of these on the exchange complex. Their places are taken by  $H^+$  and  $Al^{+++}$  ions. As the proportion of any cation on the exchange complex falls it becomes increasingly difficult to release it from these positions for plant uptake.

Above 8.5 sodium becomes the ion which limits the amount of Ca and Mg.

(IV) Sulphur. Acid soils have less sulphate than neutral to alkaline soils. Sulphate is the most important source of sulphur for plants.

(V) Manganese. Available Mn increases as pH decreases below 5.5. Above 5.5  $MnO$  is oxidised rapidly to higher insoluble oxides ( $MnO_2$ ,  $Mn_2O_3$ ,  $Mn_3O_4$ ) and thus rendered unavailable to plants.

Water soluble Mn increases to 10 fold for a pH drop from 7 to 4. This is due to chemical reduction by organic matter.

At lower pH values bacteria which reduce higher oxides to the soluble lower oxide are relatively more active than those carrying out the reverse process of oxidation. The latter can operate only above pH 5.5. Biological

and chemical reduction are negligible above pH 8.0.

Deficiency is expected below 2-3 ppm available Mn in soils.

Toxicity is expected above 40-60 ppm available Mn in soils.

Gosford sandy soil has about 0.5 ppm available Mn in soils.

However, available levels depend not only on pH conditions but also on temperature, moisture and clay content. Total Mn must of course be sufficient.

(VI) Boron. Some workers set deficiency levels at 0.5 ppm in soil as extractable by boiling water.

Boron forms a borate anion like phosphate and as such is fairly rapidly leached out of acid soils, being less firmly held than phosphate. Organic matter appears to counteract its loss without making it unavailable. Liming reduces its availability in acid soils by reducing the solubility of borates.

(VII) Copper. Swedish workers set deficiency levels of total copper in peat soils (which fix it strongly) at about 15 ppm and in mineral soils at 7 ppm. South Australian sandy soils showing Cu deficiency have less than



1 ppm in surface soil and less than 2 ppm in subsoil. Pasture plants show deficiency on sands having 0.3 to 14 ppm total Cu.

Plants on soils with 60-90 ppm contained excess Cu. 26-40 ppm soils gave plants sufficient.

Copper occurs as a cation absorbed onto exchange sites and therefore in acid soils it would be lower than in alkaline soils. Organic matter however plays a big part in absorbing copper.

(VIII) *Molybdenum*. Like boron it occurs as an anion. However, liming increases molybdenum availability markedly especially between pH 5 and pH 7. Acid soils will have less molybdenum (other things being equal) because molybdenum is leached out of soils more readily under acid conditions.

Soils show deficiency at about 0.1 to 0.2 ppm as extracted by acid oxalate reagent.

Organic matter seems to hold molybdenum without rendering it unavailable and therefore helps to improve its availability in acid soils.

## GREAT YEAR END AT DEVONPORT

The last quarter of 1984 was just a little too crowded for Devonport OS reports live-wire secretary and top-grower Gwen Smith. Two shows and participation in the local high school garden weekend meant that the spring show report arrived a little late for the December issue.

Gwen reports that the Grand Champion went to a beautifully-flowered *Cymbidium* Ivy Fung 'Sultan', owned by Jan Oosting. Jan also took out the Reserve Champion with an outstanding white *Dendrobium speciosum* of exceptional substance, and with flat open flowers. Most Pre-eminent Entry went to Grant Smith for a pot of *Pterostylis baptistii*, so the natives had a field day.

Best *Cymbidium* other than the champion was C. Borough Green 'Conference', grown by John and Ruth Cannon. Best display over six square metres went to Gwen and Otto Beetz. An interesting class was for *cymbidium* of three distinct colours which was won by Jan Oosting with the combination Sensation 'Aminya', Wallara 'Gaye' and Joyce Duncan 'Lorraine'.

First-time exhibitors David and Coralie Best received 14 first prizes and immediately became open growers, much to their delighted amazement. Their S/c. Jewel Box 'Dark Waters'

was a lovely specimen plant with many iridescent red blooms.

## NSW REGIONAL CONFERENCE

This mini-style orchid conference will have all the vim and vigour of a major conference, but at a fraction of the cost and with the intimacy a major conference lacks.

Scheduled for the weekend of October 19 and 20 this year it will be a non-stop festivity with never a dull moment.

Venue is the first-class convention centre, the Florida Hotel at Terrigal, right in the heart of the beautiful NSW Central Coast.

Registrants may arrive on Friday, or up to 10.15 on Saturday. Then it's non-stop with wine tasting, seminars, displays, snack breaks, lucky-door and lucky-seat prizes, prizes for corsage and button-hole wearers, a movie on orchids and after-dinner speaker Andy Easton from New Zealand, whose views on *cymbidium* mini-breeding are guaranteed to keep you awake.

Sunday will be devoted to two half-day tours covering scenic and historical spots, orchid collections and a bush orchid area. A T-bone steak barbecue is planned at the Florida.

Interstate and overseas visitors will be welcome — in fact some overseas folk are expected to call in after the New Zealand Conference.

For those who can stay over until Monday an outing to the Hunter River wineries is planned.

Intending registrants should contact the NSW Regional Conference secretary, Mrs Maureen Trotter, PO Box 541, Gosford, NSW 2250.

Conference host society is the Gosford Orchid Society. Registrants are invited to bring cut flowers for display, also floral art arrangements. Plants may also be presented for award judging.

## RINGWOOD FESTIVAL IS BIG

Ringwood OS organise their orchid festival early and think BIG! It attracts exhibitors from all over Melbourne by offering plenty of classes and substantial prize-money in each. This year it runs from Monday, September 30 to Saturday, October 5 at the Eastland Shopping Central, Ringwood. Open during shop hours.

For schedules contact The Secretary, Ringwood Orchid Society, PO Box 11, Ringwood East 3135.



# Progress in Hybridising *Lycaste*

FRED ALCORN

As a hybridiser of some years' experience and having made 112 crosses, I thought it would benefit those who are interested in taking up this particular study, if I were to outline some of the basic principles in breeding *Lycaste* hybrids and so share the experience and thrill of watching a new seedling unfold with all its beauty and finally to see it win a championship. This is indeed a fitting reward for all the planning and work one has undertaken.

The hybridising of orchids is similar in every way to animal breeding, the finding of a good parent or being able to purchase one, is the first step. Providing it has the qualities you are looking for, mating it with a plant that has the desired complementary quality, should get results. After all these years I believe we have found a few good parents and so are able to line breed.

When returning to species for new genes in your pool, endeavour to get the best possible clone as I have found a great variation in many species. After flowering a few, select the best for your programme of line

*Lycaste* Warren is a recent cross by Mr Fred Alcorn which has proved exciting. It is noted for neat shape, open petals and lip, and fresh colours. The cross is *L. Candicrue* x *L. Koolena*. Photo by F. Alcorn.

breeding. Progress is slow as it takes five years from pollination to flowering — this requires patience and perseverance.

Although a cross is successful it does not mean you can use parents of the same name and gain similar results. Each parent has a certain quality that has blended to make the success. The *L. Koolena* cross has made history by winning awards and many championships. When two selected clones of *Koolena* were used we obtained pure whites, several shades of pink, to dark reds. The *Macama* cross has proved outstanding producing many shades of pink to dark reds such as 'Jocelyn', AM, 'Doris May', HCC, 'Princess Caroline' and 'Radiance'.

The *Macamas* have also gained awards and many championships. I believe this cross to be one of the best made so far, a few have proved outstanding parents. Several other



new crosses have shown great promise such as Wyuna, Kawana, Gyra, just to mention a few, which all goes to prove my theory of line breeding — select the best parents and expect good offspring.

It is good to have now reached the stage where we can look forward to stabilising some of the desired qualities in hybridising such as broadening the sepals, producing new colours, endeavouring to reduce the furling of the sepals and increasing the number of flowers per bulb. By accomplishing this we will have done what has been achieved over the last twenty years with cymbidiums, phalaenopsis, paphiopedilum, etc. In studying the species you will observe that many have the open petals, hence I use the term 'open petal type'. This distinction is prominent in the Aquilas and Wyunas just to name two. On the other hand we have become accustomed to the Koolenas and Macamas which I call the 'folded petal type'. These are inherited from *L. skinneri* (a synonym of *L. virginalis*), the dominant parent in most of our modern hybrids, and over the years we have accepted this as the standard type. However, I intend to continue breeding both types as there is an obvious attraction to both. This was evident at our last NSW 50th Anniversary Spring Show when Wyuna Paula was awarded second place against many of the Koolenas, Shoalhavens and Macamas. Many of our judges are now appreciating the open-petal type.

We have used the following *Lycaste* species — *aromatica*, *cruenta*, *deppei*, *dowiana*, *lanipes*, *stromboli*, *locusta*, *macrophyllum* and *xanthocheila* — a sub-species of *macrophylla*. While many of these flower freely when crossed with a good hybrid parent, they remain medium size and several retain their perfume, which indicates we have to look to the next generation by line breeding.

The following crosses and comments may be of interest to many who at some future time will become interested in *Lycaste*:—

*L. Wyuna* (Macama x *mathiasiae*). Flowers pale green with a pink flush, stems strong, texture good and always face the camera. Flower from February to October.

*L. Gyra* (Koolena x Jason). Mostly medium to dark reds, few in light shades; 60 per cent have dark-red lips. Texture good. Flowers last six weeks. Sepals 90 per cent without furling.

*L. Kawana* (Koolena x Auburn). Flowers good average pinks light to dark, some red

shade.

*L. Moree* (Aquila x Sunrise). Light cream shades to yellow. Appear to throw back to Aquila.

*L. Cooma* (Aquila x *macrophylla*). Strong grower, yellow with brown spots, heavy texture, long lasting. Strong Aquila influence in shape. Aquila shows the influence of parent *Brugensis* a dominant shape in breeding.

*L. Amaroo* (Sunrise x Auburn). Few nice shades, light to very light pinks.

*L. Corrimal* (*aromatica* x *macrophylla*). Most light cream to yellow. Medium size. Free flowering.

*L. Henty* (Candicrue x Koolena). Cream to light pink, some of these attractive. Look forward to next generation.

*L. Kiama* (Shoalhaven x Leo). All shades of pink, some good ones. Texture firm.

*L. Killara* (Macama x *dowiana*). Mainly light pink with a quarter of the sepals green at base.

*L. Leura* (Nebula x Macama). Made this cross to get good reds — some had this attribute. Will look forward to next generation for improved shape.

*L. Warren* (Candicrue x Koolena). Very interesting cross, some with broad-based sepals. Colour cream to light-green shade. Large open petals — off-white.

*L. Henty* (Shoalhaven x Leo). Cream to pink. Average shape and texture.

*L. Kembla* (*linipes* x Macama). Pale green to cream. Shape similar to *linipes*.

*L. Karina* (Shoalhaven x Macama). Light shades of pink. Flowers large, some with sepals over two inches.

*Macama Orchids*

169 Pennant Hills Road, Carlingford 2118



"The profusion of rainbow-coloured, richly-scented and curiously-shaped flowers that exists throughout the world is an essential part of the plant kingdom's equipment for sexual reproduction." Quoted from *Plants and Invertebrates*.

## NEW SOCIETIES NOTE

Some new societies have been formed recently and AOR would be pleased to publish details of meeting night, addresses, etc for the information of prospective new members, visitors and prospective speakers. Kindly address to the Editor, 260 Geoffrey Road, Chittaway Point, NSW 2259.

# The Hybridisation of Orchids

**THE FIRST ORCHID HYBRIDS.** Sir Harry Veitch told the story of the first orchid hybrids in a paper presented at the First Orchid Conference. The conference was organised by the Royal Horticultural Society in the year 1885. A Centenary Conference is scheduled for March this year. AOR gratefully acknowledges the kind permission of the RHS librarian to reprint this most valuable and interesting historical paper.

H.J. VEITCH, FLS

In a communication "On Hybridisation Among Vegetables", by Dean Herbert of Manchester, published in 1847, in the second volume of the *Journal of the Horticultural Society of London*, I find the following remarkable passage:—

"Cross-breeding amongst Orchidaceous plants would perhaps lead to very startling results; but, unfortunately, they are not easily raised from seed. I have, however, raised *Bletia*, *Cattleya*, *Herminium monorchis* and *Ophrys aranifera* from seed; and if I were not, during the greater part of the year absent from the place where my plants are deposited, I think I could succeed in obtaining crosses in that order. I had well-formed pods last spring of orchis by pollen of ophrys, as well as of other species of orchis which had been forced; and if I had remained on the spot I think I should have obtained some cross-bred Orchidaceous seed. An intelligent gardener may do much for science by attempts of this kind if he keeps accurate notes of what he attempts and does not jump at immature conclusions."

This is the earliest authentic information I have been able to obtain of attempts to raise new forms among orchids by cross-breeding and with what success the Dean himself has told us in his own words. At that time, and for some years afterwards, there was a prevalent notion among gardeners that muling among orchids was an impossibility, and, so far as I am aware, no one attempted it besides Dean Herbert till it was taken up by Dominy, at our Exeter nursery, about the year 1853. The cause of the prevalent belief of that age in the impossibility of hybridisation among orchids is not, I think, far to seek.

Dean Herbert was a man of science and was well acquainted with the structure of

orchid flowers; to him their fertilisation by hand presented no difficulty; to horticulturists and gardeners it was quite different. Not only had they, in common with many others, not the slightest suspicion of the fertilisation of orchids by insect agency, but, moreover, very few of them possessed even an elementary knowledge of botany. They could, it is true, distinguish accurately the stamens and pistils of many flowers familiar to them, and they were aware of the functions of those organs, but the confluence of those organs into the solid column of an orchid flower was to them a profound mystery. It was unfortunate, too, that Dean Herbert's injunction to keep accurate notes of what was attempted was not followed in the early days of orchid hybridisation, whence the uncertainty that still hangs over the parentage of some of the earlier acquisitions.

It was Mr John Harris, a surgeon of Exeter, who suggested to Dominy the possibility of muling orchids and who pointed out to him the reproductive organs seated in the column and showed that the application of the pollinia to the stigmatic surface was analogous to the dusting of the stigma of other flowers with pollen. This simple fact being once fairly grasped, the work of hybridisation proceeded apace. The flowers of showy species of *Cattleya*, *Laelia*, *Calanthe*, &c were fertilised with the pollinia of other species and even the flowers of supposed different, but of course allied, genera were also operated upon in the same way. Capsules were produced in abundance which in due course proved their maturity by dehiscing and thus the long and anxiously-desired seed was at length at hand. Then arose a great difficulty, a difficulty which still exists and which our long experience has enabled us to make only a short step towards



overcoming, to discover the most suitable method of raising seedlings. The seeds of orchids are minute, chaffy bodies of extreme lightness. So minute are they that an ordinary pocket lens is powerless to enable one to know whether the seeds are likely to contain a germ or are mere lifeless dust. When growing wild, it is evident that the contents of the mature capsules after dehiscence are more or less scattered by the wind, perhaps wafted to great distances until they settle on the branches of trees, on shelving rocks or other suitable situations where the seeds can germinate and the seedlings firmly affix themselves.

Following, or at least believing that we were following nature, so far as the altered circumstances of artificial cultivation allowed, every method or available means that could be thought of was brought into request to secure the germination of the seed. It was sown upon blocks of wood, pieces of tree-fern stems, strips of cork, upon the moss that surfaced the pots of the growing plants, in fact, in any situation that seemed to promise favourable results. But as it was in the early days of orchid hybridisation, so it is now, we seem as far off as ever from hitting upon a method by which at least a moderate amount of success may be calculated upon; failures were at first, as now, innumerable and numberless such are without doubt inevitable.

Among the most cogent causes of failure in the raising of seedling orchids, there can be no doubt that the altered conditions of climate, especially the deficiency of sunlight and the artificial treatment to which the plants are necessarily subject in the glasshouses of Europe are the greatest. The capsules neither can nor do attain the perfection natural to them in their native countries and it is more than probable that, independently of the capsules grown in our houses being the production of cross-breeding, they do not yield a fractional part of the quantity of good seed they would do in their native land. And so with their progeny — the tender seedlings are brought into life under circumstances so different from what they would have been in their native land, that it is not at all surprising that multitudes of them perish in their earliest infancy. The capsules are not only less perfect in our houses than they would be in a state of nature, but they also require a longer time to arrive at maturity, a circumstance that must tell against the progeny.

The cause of this is also climatic, chiefly of

course the enormous diminution of sunlight and sun heat. To make this clear I will adduce one illustration and for that purpose I select the New Granadian cattleyas of the *labiata* group, because they are among the best of subjects for the operations of the hybridist. These cattleyas have their home chiefly in the ravines and valleys of the Cordilleras, at elevations ranging from 2,000 to 5,000 feet above sea level and between the second and tenth parallels of north latitude. The plants by being transferred from proximity to the equator, where on clear days the sun darts his rays either perpendicularly upon the place in which they are growing, or at a comparatively small angle to them, to a high latitude like ours where the smallest angle at which the sun's rays can fall upon our houses is about 28 degrees and that only for a few days at mid-summer, an angle which daily increases till at midwinter it reaches 75 degrees, suffer an enormous diminution of solar light.

Now light in passing through the atmosphere, even under the most favourable circumstances, is subject to absorption or is intercepted by it, but the amount varies with the angle; thus it has been shown that of a given quantity of light falling perpendicularly upon a given point, one-fifth of it is absorbed or intercepted by the atmosphere; if it falls at an angle of 50 degrees more than one-fourth is intercepted and at an angle of 75 degrees fully one-half. Hence, in the winter months, even when the days are clear and bright, we can get no more than five-eighths (a little more than one-half) of the solar light these New Granadian cattleyas receive in their native country on the assumption that other circumstances remain the same. It is quite evident, then, at what a disadvantage we are placed as regards the ripening of capsules of orchids whose native home is near the equator, to say nothing of local difficulties, such as the smoky atmosphere and fogs of London.

It is not unreasonable to infer in the absence of more accurate knowledge obtained by direct observation that the capsules of the New Granadian cattleyas require but a short period to attain maturity in their native country and that this period extends only over the two or three months of what is there called the dry season but which in that region is subject to frequent showers. In our houses the time required for maturing the capsules of cattleyas of the *labiata* group ranges from eleven to thirteen months, for *Laelia purpurata* it is

about nine months, for *Phalaenopsis Schilleriana* six months, *Cypripedium Spicerianum* eleven to twelve months, *C. insigne* ten months, *Masdevallia* four months, *Calanthe* three to four months, *Zygopetalum Mackayi* when crossed with *Maxillaria* about six months *Odontoglossum maculatum*, *Dendrobium aureum*, *Angulao Clowesii*, *Chysis bracteescens* and *Maxillaria Harrisoniana*\* each about twelve months. But, of course, these periods are only approximate; the time required for the ripening of the capsules is considerably influenced by the state of the weather and external circumstances, especially by the amount of direct sunlight during the year. I note that our experience does not differ essentially from that of M. Bleu of Paris, who has published in the journal of the *Societe Nationale d'Horticulture* the periods of ripening of the capsules of several orchids crossed by himself, although it might be expected that in the warmer and drier climate of Paris the periods would be somewhat shorter.

Adverse as are some of the influences under which we work to obtain capsules there is but little difficulty in getting them and in abundance too; sometimes even from crosses that, to the systematic botanist, would seem almost beyond belief; but then comes the *crux*. Good seed is the all-important factor in producing healthy seedlings, and this unfortunately, from causes already partially adverted to, is obtainable but in a very minute proportion of the whole. Seed we get in profusion, but so little of it germinates that the patience of the most-persevering is put to a severe test. The seeds of hundreds of capsules have been sown without yielding a single result. In very many cases only a solitary plant had been raised from a capsule that must have contained thousands of seeds; in very few instances indeed has the number of seedlings from one cross reached a hundred. It is true that we have raised many seedlings in the aggregate, but many of them have appeared when least expected and when we consider the myriads of seeds that have been sown and the comparatively few plants raised we cannot be said to have achieved very great success. It may here be noted that with the exception of *cypripedium*, which bears the stress of fruit-bearing better

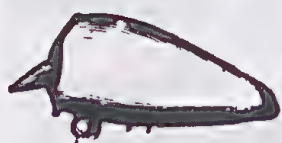
than any other genus, many plants bearing capsules become greatly debilitated. During the season the capsule is being matured,

PLATE I



Seed of Phalaenopsis.

Seedling Phalaenopsis, four months.



Phalaenopsis, nine months.



Phalaenopsis, 2 1/4 years.



Phalaenopsis, three years.

\*Note: Capitalisation as indicated was correct for 1885. International Congresses have altered it since. The 1885 usage is kept to here.



## PLATE II

Seed of *Selenipedium*.Seed of *Eucypripedium*.

(Seeds greatly enlarged — Editor)

growth frequently ceases altogether, and when the plant operated upon is not strong, it not infrequently perishes even before the seed is ripe.

(Diagrams of seeds and seedlings in various stages of development here introduced. See plates).

If the ripening of the capsules takes place under such adverse influences, the same influences are by no means propitious to the early infancy of the progeny. The period from germination to the formation of the first roots, which, for want of a better phrase and for the present purpose, I will call the thalloid state of the young plant, and which sometimes occupies several months, is the most critical in the life of seedling orchids raised in glass structures; it is especially so with cypripedium, calanthe and phalaenopsis, and seedlings of these we accordingly find to be the most difficult to preserve prior to their getting firmly rooted. A succession of dull, cloudy days in winter and even a few hours of London fog will cause a great mortality, not only among these but among all seedlings in a similar stage.

The cares and solitudes of the raiser of orchid seedlings are by no means diminished when the infant plants are fairly rooted; they must still be constantly tended with the most assiduous care. To neglect the watering, for instance, for a single day or even for a few hours in the height of summer may prove fatal; and so on the other hand, an excess of coddling, giving them too much heat or too much water, by stimulating them into growth before their natural season arrives is equally a source of danger. Nor is it the only one. We know of an instance of the splendid *Dendro-*

*bium nobile nobiliss* being crossed with *D. aureum*; the capsule was matured in due course and the seed sown, but only one seedling was raised. This, as may be readily supposed, was tenderly cared for, but all to no avail; the seedling had grown to about half-an-inch when one night a vulgar snail devoured the precious morsel at a single meal. (Laughter).

We, too, have had our troubles. Among our earliest phalaenopsis crosses we succeeded in raising a single seedling from a capsule of *Phalaenopsis amabilis* crossed with *P. rosea*, which we were particularly anxious to save, as it would have solved the question of the parentage of *P. intermedia* or *Portii*, which is a supposed natural hybrid between the same two species. The plant had made three healthy leaves; it was well established in a small pot, which, to be the more secure from danger, was placed upon an inverted pot that stood in a pan of water. One morning, to the great dismay of Seden, it was discovered that a slug had eaten off two of the best leaves, and would, if not trapped, certainly devour the remainder. Anxious to save the treasure, the plant was watched incessantly for hours in the expectation that sooner or later the marauder would make his appearance; to induce him to do so the moss was constantly plunged into water; the repeated duckings had at length the desired effect, the culprit issued from his lurking place and the plant was saved. The two little circumstances I have narrated speak for themselves.

And now, how long must the hybridist wait before his labours are rewarded with a sight of the flower whose appearance he has been waiting with longing expectation, and upon

# PLATE III



Seedling Cypripedium, six months.



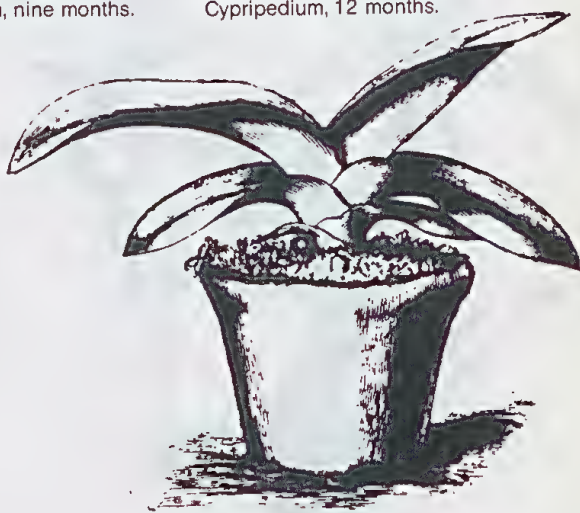
Cypripedium, nine months.



Cypripedium, 12 months.



Cypripedium, 16 months.



Cypripedium, two years.

which many hopes have been built, too often, unfortunately, to end in disappointment.

The shortest periods from the germination of the seed to the production of the flower yet observed are those of *dendrobium*, that is, *D. aureum* crossed with *D. nobile* and *vice versa*, three to four years; *phaius* and *calanthe* about the same; *masdevallias* four to five years; *chysis* about the same. Then come longer intervals; *zygopetalum* five to nine years, according to the cross, thus, *Z. maxillare* crossed with *Z. Mackayi*, five years, *vice versa* nine years, a curious, but to us, unaccountable circumstance, as is the case of *Cypripedium Schlimii*, which crossed with *C. longifolium* flowers in four years; but the *vice versa* cross takes six years. *Lycaste* takes seven to eight years; *laelias* and *cattleyas* may be said to flower from ten to twelve years from the seeds.

[Seedlings of different genera at various stages of growth were here shown. See plates].

I will now glance at some of the results obtained by us from muling. Dominy began to hybridise orchids at our Exeter nursery in

1853, and continued his operations for some time after removal to Chelsea in 1864. Seden began at Chelsea in 1866, and has worked uninterruptedly from that time to the present. Our experience, therefore, extends over a period of more than thirty years, during which the field of operations has been greatly enlarged, especially of late years, our experiments being made upon a vast number of cultivated orchids, including many hundreds of crosses, not only between allied species but also between species of different genera.

Among the results obtained by Dominy at Exeter, *Calanthe Dominii*, raised from *C. masuca* x *C. furcata*, will always be regarded with interest, as being the first hybrid orchid that flowered. It flowered for the first time in October 1856, on which occasion the spike was shown by my father to Dr Lindley, who exclaimed, on seeing it, "You will drive the botanists mad", an expression quite characteristic of the rigid systematists who flourished prior to the publication of Darwin's "Fertilisation of Orchids by Insect Agency". The first hybrid cattleya that flowered was *C. hybrida*, a plant now lost, but which was soon followed



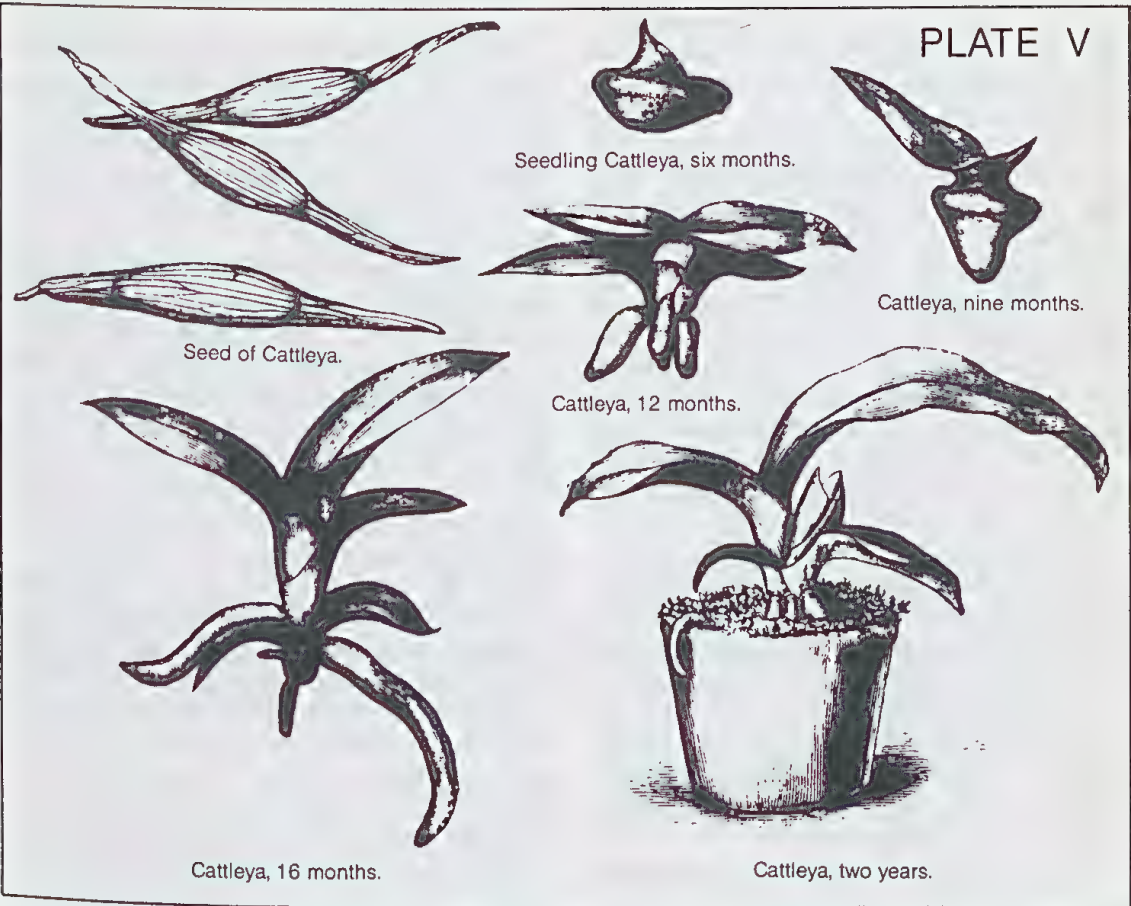
## PLATE IV

Seed of *Dendrobium*.Seedling *Dendrobium*, four months.*Dendrobium*, seven months.*Dendrobium*, 12 months.*Dendrobium*, 18 months.*Dendrobium*, two years.

by the flowering of *C. Brabantiae*. The first hybrid cypripedium to flower was *C. Harrisianum*, which justly commemorates the name of Dr Harris, a gentleman who first suggested the hybridisation of orchids. Among other noteworthy acquisitions raised at Exeter were *Cattleya Dominiana*, *Laelia Exoniensis*, *Calanthe Veitchii* and *Laelia Veitchii*. The last-named flowered for the first time at Chelsea. Dominy also raised some seedling vandas, but they were afterwards lost. Seden's acquisitions are more numerous, and many of them unquestionably prove that substantial progress is being made, in spite of the innumerable difficulties that beset the raising of seedling orchids. To any one who has compared *Cypripedium cardinale*, *C. Schroderae* and *C. Sedeni candidulum*, with the original *C. Schlimii*, this progress is manifest enough. And so with *C. aenanthum superbum*, *C. Leeantum superbum* and *C. Morganiae*; nor ought I to omit mention of *Laelia flammea*, still

unique in colour among orchids, *Masdevallia Chelsoni*, *Calanthe Sedeni*, also obtained by other operators, and *Dendrobium micans*.

The following details may prove to be of some interest. Among cattleyas we find that all the members of the *labiata* group and also the Brazilian species with two-leaved stems, as *C. intermedia*, *C. Aclandiae*, *C. superba*, &c, cross freely with each other, and with the Brazilian laelias, which also cross freely with each other. It is worthy of note, too, that those hybrids which have a two-leaved cattleya for one parent and a one-leaved laelia or cattleya for the other, have some stems with one and others with two leaves, and the flowering does not seem to be affected thereby. [A plant with this peculiarity here shown]. But neither the cattleyas nor the Brazilian laelias will cross freely with the Mexican *Laelia albida*, *autumnalis*, *majalis*, *rubescens* (better known in gardens as *acuminata*), &c. Numerous crosses have been effected both ways, and



capsules have been produced, but the seed has always proved barren. *Laelia anceps* appears to be an exception, for it seeds freely whether crossed with a cattleya or with any of the Brazilian laelias. The period from the germinating of the seed to the appearance of the first flower varies immensely in the different crosses, thus *Laelia triophthalma* raised from seed sown in 1875 flowered in 1883, this is the shortest period known to us; *Laelia caloglossa* from seed sown in 1858, flowered for the first time in 1877, or nineteen years, this is the longest period known; the others have taken periods that may be said to average from ten to twelve years.

Among cyripeds some very curious facts have been elicited through muling. Thus, the East Indian species cross freely with each other, and a numerous progeny has resulted therefrom. The South American species, the selenipedia as they are called, also cross freely with each other, and many new forms have been obtained; the hybrids in both sections flower within a few years from the seed being sown. But in the case of the crossing of Indian with South American species, the process has been much slower

in producing results. An infinitely smaller percentage of the seed germinates, and those seedlings that survive are so slow in arriving at the flowering stage, that up to the present time not a single plant has produced a flower, although the plants continue strong and healthy in appearance and increase in size every year. One thing is certain, the three-celled ovary of the selenipeds offers no impediment to fertilisation by the pollinia of Cyripeds with a one-celled ovary, for we have plants raised from *C. caudatum* x *C. barbatum*, and many other like crosses between other species have yielded seed.

*Cypripedium Sedeni* was a remarkable cross in many respects, it was, in fact, raised from two crosses, *C. Schlimii* x *C. longifolium*, and the same two vice versa. It will be observed that in this case, one of the parents, *C. longifolium*, is much more robust in habit and growth than the other parent, *C. Schlimii*. [Plants of *C. longifolium*, *C. Schlimii* and *C. Sedeni* were here shown]. No perceptible difference was observed between the plants raised from the two separate crosses, they agreed in habit, foliage, colour of flower, in fact, in every particular. No such similar result



has been obtained by us among cypripeds. A *vice versa* cross between the same two species produces seedlings that vary more or less from those produced from the first cross. Thus *C. tessellatum* resulted from *C. barbatum* x *C. concolor*, and *C. tessellatum porphyrium* from *C. concolor* x *C. barbatum*. We have also an instance of two recognised species each being crossed by a third, but both crosses producing like results, thus *C. longifolium* x *C. Schlimii* and *C. Roezlii* x *C. Schlimii* produced seedlings whose flowers are indistinguishable from each other, although as might be expected, the foliage of the *C. Roezlii* progeny is like that of its parents, the more robust of the two; hence the specific rank of *C. Roezlii* is very questionable.

Not only do recognised species of each section, East Indian and South American, cross freely *inter se*, but the hybrids also cross freely with them. The beautiful *C. aenanthum superbum* has for its parents *C. Harrisianum*, itself a hybrid and *C. insigne Maulii*. As regards the habit and foliage of hybrid cypripeds, the progeny usually takes a form intermediate between the two parents, but sometimes it is more robust than either.

Large as is the field offered by the great genus *Dendrobium* for the operations of the hybridist, comparatively little has yet been effected. Dominy raised the hybrid that bears his name many years ago in our Exeter nursery. It was followed some years later by *D. Ainsworthii*, which appeared in Dr Ainsworth's collection at Manchester in 1874. Plants of the same cross raised by West appeared about the same time in the Fairfield nursery, near Manchester, and later, in the collection of Mr Brymer, at Dorchester, by another operator, the parents being *D. aureum* x *D. nobile*. Subsequently Seden raised *D. splendidissimum* from the same cross, and still later, Mr Swann obtained *D. Leechianum* from *D. nobile* x *D. aureum* or the *vice versa* of the others. The seedlings raised from all the crosses are found to be variable; members of one progeny approaching so closely varieties among the others, that the original distinctions set up between them cease to be appreciable, but without egotism I venture to claim for *splendidissimum* larger flowers with more substance in sepals and petals, caused probably through our having hybridised finer varieties of the two parents. Nevertheless, to avoid confusion, the progenies should, I think, to use an academical expression, be

bracketed.

Of the eight hybrid dendrobies that have already flowered *D. nobile* is one parent of five, and *D. aureum* of three of the same five, and of one other, so that only two, *D. micans* and *D. rhodostoma*, have yet flowered that have a parentage in which neither *nobile* nor *aureum* participated.

Crosses between species of phalaenopsis have been effected by several operators, and capsules readily obtained. We only know, however, of three instances besides our own where seedlings were raised; the first by Dodds, in 1868, in the collection of Sir John Greville Smith, at Ashton Court, near Bristol, but they were afterwards lost; then Grey, gardener to the eminent orchidologist, Mr Corning, of Albany, New York, raised some seedlings, but they, too, were afterwards lost; and, lastly, Mr Hollington, at Enfield, who has, I believe, one seedling still living. Our own experience with phalaenopsis dates from 1875; our first cross was between *P. grandiflora* and *P. Schilleriana*, but with that and with several succeeding crosses no results beyond the capsules were obtained. The first capsule to yield seedlings was gathered from *P. grandiflora* x *P. rosea*; a few of these are still living. Then we obtained a few from *P. amabilis* and *P. rosea*, which grew with more vigour than their elder brethren, and may not improbably flower within the next two years. Still later we obtained seedlings from *P. Schilleriana* x *P. rosea*, *P. grandiflora* x *P. Ludemanniana*, and from two to three other crosses.

*Calanthe* has probably received attention from more operators than any other genus in the great orchidean family, a circumstance that can be best accounted for by results being obtainable in a shorter period than from any other genus. It may be that *calanthe* being more terrestrial than epiphytal, there is a predisposition to earlier maturity. The capsule of *calanthe* usually ripens in three to four months, and the seed takes from two to three months more to germinate; the seedlings under favourable circumstances will flower in the third or fourth year; hence it happened that, although seedlings *cattleyas* were in existence before seedling *calanthes*, the first hybrid orchid to flower was a *calanthe*. *Calanthe Veitchii* flowered for the first time in 1859, and was at that time believed to be a true bigeneric cross, but such it cannot now be regarded, as Mr Bentham, in the "Genera Plantarum", has referred the pollen



parent *Limatodes rosea* to *calanthe*. Not so, however, is *Phaius irroratus*, raised by Dominy from *P. grandifolius* x *Calanthe nivalis*, and *P. irroratus purpureus*, raised by Seden from *P. grandifolius* x *Calanthe vestita rubro-maculata*, and a third progeny that has not yet flowered, which was obtained by the last-named hybridiser from *Phaius grandifolius* and *Calanthe Veitchii*. These are entitled to be called bigeneric crosses. In one of the cases only a single plant was raised, and in each of the other two the number was very restricted. It is a curious fact, too, that in habit, aspect, and in other respects the progeny is well-nigh intermediate between the two parents, being neither quite evergreen like *phaius*, nor deciduous like *calanthe*.

Masdevallias were taken in hand at an early date, but failures were frequent, caused probably by the fact that *masdevallia*, as a genus, is far more heterogenous than was at first supposed, whence a mixture of the different sections may not possibly be effected. *M. Chelsoni* was at length raised from *M. amabilis* x *M. Veitchiana*; then *M. Fraseri* from *M. ignea* x *M. Lindeni*, by Mr Fraser, of Derncleugh, Aberdeen, but the seedlings were reared by us; and lastly, *M. Gairiana* from *M. Veitchiana* x *M. Davisii*. Capsules have been obtained from *M. Veitchiana* x *M. infracta*, *M. polysticta* x *M. towarensis*, *M. Harryana* x *M. Veitchiana*, and a few others, but all attempts to intermix *M. chimaera* and its allies with the brilliant-flowered species have proved fruitless.

Great as is the difficulty of raising seedlings from orchids requiring a high temperature for their cultivation, it is still greater in the case of those that receive "cool treatment", if we except *masdevallia*. *Odontoglossum* affords a striking instance of this, paradoxical as it may seem, especially as so many undoubted natural hybrids between different species of this genus have appeared among the importations of the last ten years. Numerous crosses between various species, both Mexican and New Granadian, have been effected, and capsules with apparently good seed have been produced, but with the utmost care that could be bestowed no progeny has yet been raised. Mr Cookson, of Newcastle, has, indeed, stated in *The Garden*, of February 10, 1883, that he succeeded in raising a fine lot of *odontoglossum* seedlings, of which the pollen parent was *O. crispum* and the seed parent either *O. gloriosum* or *O. Uro-Skinneri*, but which he was not quite

sure. He has since informed us that all of them have perished. And so with the *miltonias*, usually classed with *odontoglossum*, and grown in an average higher temperature, as *vexillarium*, *Roezlii* and *phalaenopsis*. The only seedlings we have been able to raise were obtained from a cross between the two last named, and these were unfortunately lost within a few months after the germination of the seed. I may here note that the late Mr Bentham, when working up the *Orchideae* for the "Genera Plantarum" must, I think, have been misinformed when he states under "*Miltonia vexillarium*", page 563, that "fide hortulanorum facile cum *Odontoglossis* variis nec cum *Miltoniis* genuis proles hybridas gignunt". Our experience is the very opposite of this. *Vexillarium* crosses readily with the flat-lipped *miltonias*, as *spectabilis*, although thus far we have failed to raise any progeny from these crosses, but not with the true *odontoglosses*; often as it has been attempted, no capsules are produced. Thus, while our experience in muling among *odontoglosses* goes far to disprove the statement I have just quoted, it at the same time confirms unmistakably Mr Bentham's view as to the proper generic place of *vexillarium*, and its allies *Roezlii*, *phalaenopsis* and *Warscewiczii*.

It will be gathered from what I have already said that our hybridising operations have extended over a rather wide field; that they have not been confined to the crossing of different species of the same genus, but hundreds of experiments have been made between species of different genera. The question thence naturally arises: How will these bigeneric crosses affect the stability of the genera as at present circumscribed? And, what changes of nomenclature will be necessary to place the *Orchideae* on an intelligible basis as regards names? Glancing over the whole range of our operations, and the results obtained from them, I may safely reply that thus far the stability of the genera is scarcely affected, and the changes in nomenclature need be very few indeed. Leaving the progeny derived from species of *cattleyas* x *laelia* out of consideration, the last-named genus being confessedly an artificial one, only two bigeneric hybrids have yet flowered; these I have mentioned above, *Phaius irrocatus* and *P. irrocatus purpureus*. Many years ago Dominy raised *Anaectochilus Dominii* from *Goodyera discolor* and *Anaectochilus xanthophyllus*, and *Goodyera Veit-*



*chii* from *G. discolor* and *Anaectochilus Veitchii*. Plants derived from both crosses are still in cultivation, but the names they bear are simply garden names. We have plants, but which have not yet flowered, raised from *Cattleya trianae* crossed with *Sophranitis grandiflora*, and from *Cattleya intermedia* crossed with the same species of *sophranitis*. We have, besides, a seedling whose parents are *Cattleya trianae* and *Brasavola Digbyana*, but as the last named is now referred to *laelia*, this can hardly be regarded a bigeneric cross. With these few cases I have exhausted the list. But when we enumerate the capsules with apparently good seed that have been obtained from bigeneric crosses, but from which no seedlings have been raised, the list is somewhat more formidable. Some of the most remarkable of these were produced by *Acanthephippium Curtisii* x *Chysis bracteescens*, *Bletia hyacinthia* x *Calanthe masuca*, *Chysis aurea* x *Zygopetalum Sedeni*, *Odontoglossum bictonense* x *Zygopetalum maxillare*, *Zygopetalum Mackayi* x *Lycaste Skinneri*. But, on the other hand, we have obtained a large number of capsules of the normal size, and to all appearances externally perfect, not only from bigeneric crosses, but even between species of the same genus, which contained not a single seed. And, lastly, I may note that *Zygopetalum Mackayi* has been crossed with several species of *odontoglossum*, and seedlings raised from some of the crosses, but every one that has yet flowered has proved to be *Zygopetalum Mackayi*.

The hybridisation of orchids by the hands of the cultivator is still in its infancy, we are but on the threshold; and now that muling among them has become a pastime of absorbing interest with amateurs — amongst whom special mention must be made of Sir Trevor Lawrence, Sir William Marriott, Sir Charles Strickland, Mr Bowring, of Forest Farm, Windsor, Mr D.O. Drewett, of Newcastle, and Mr Goss, of Torquay — it would be rash indeed to attempt to predict what may be in store. But, reviewing the sum total of results already obtained, can we, considering the ceaseless watching and assiduous care seedling orchids require before reaching the flowering stage, look upon them with unmixed satisfaction? How few of the best of them bear favourable comparison with the numberless lovely flowers borne by plants that owe their origin to the unerring instinct of the little winged tribe that unknowingly, and,

perhaps, unconsciously, have performed their allotted tasks for ages past, and proving, by the perfection of their work, how inept an operator is man.

### "A BEST AND PROPER MIX"

Herb McLean has served a five-year term as president of the Maryborough Orchid Society. Over the years he has helped many Maryborough growers to become established in orchids.

Herb is a retired nurseryman and his experience dates back to the years he had to serve an apprenticeship to enter the business.

Frank Williams who with his wife, Evelyn, has one of the best collections along the Queensland coast has used what he calls "Herb's best and proper mixture" for bark treatment for years and swears by it. Here it is:

Use a two-gallon bucket to almost fill a plastic garbage bin with bark of the desired size. For each gallon of bark make up a mixture of the following components by adding each separately to three gallons of water for every four gallons of bark:

- 1 level teaspoon of sulphate of potash.
- 1 level teaspoon of sulphate of iron.
- ¼ teaspoon of chelate of iron.
- 1½ teaspoons of garden lime.
- ¼ teaspoon of copper sulphate (blue-stone).

The chelate of iron helps colour the foliage. The copper sulphate assists flower colour and is also a fungicide. When the bark dries the copper sulphate crystallises on the surface and stays there until watered.

*Pinus radiata* and other local barks should be soaked in this mix for fourteen days; American bark for ten days.

The bark must then be dried in the shade. For every gallon of bark add a quarter bucket of blue metal size about 10 mm. The blue metal is an essential part of the mix. It has been found to be particularly good for hard-cane dendrobiums and oncidiums.

Frank says, "After 35 years of growing and observing I find this mix is the best".

"Orchid leaves are heated by radiant energy and can only lose this heat by conduction into the atmosphere. It is therefore important to have good air movement and high humidity around the plant since water conducts heat more efficiently than dry air." Dr Teoh Eng Soon in *Asian Orchids*.





## Champions at Ninth Australian Orchid Conference Show

**Above:** *Odontoglossum* Ararat made every viewer stop, pause and decide to buy a few odontoglossum seedlings. Grown and artfully displayed by Bob Hodgins. Photo by Tom Price.

**Below:** Reserve Champion *Cymbidium* Lake Macquarie "Winsome". The cross is C. Stanley Fouraker x Pearl Easter "Winsome". Exhibited and photographed by Tom Price.





# Transpiration

GORDON C. MORRISON

Mr Gordon Morrison is a horticultural scientist. In this article it is made clear that an understanding of respiration will greatly assist culture. Mr Morrison is author of *Growing Orchids in Australia and New Zealand*. A new edition of this excellent book will be available shortly.

**Summary.** For adequate nutrient transport in a plant, transpiration is necessary and the driving force behind this is Saturation Pressure Deficit. A method of measuring this factor is given and the fallacy of relative humidity is explained. Finally the effect of air flow and turbulence on the Saturation Pressure Deficit is considered briefly and in respect of stomatal aperture but one question of CAM-C<sub>3</sub> conversion remains unanswered.

**Introduction.** Only about one per cent of water taken up by a plant is used for metabolism, 0.2 of this is used for photosynthesis and hydrolytic purposes, the remainder keeps the plant cells turgid. The other 99 per cent is transpired through the stomata, usually located on the lower surface of the leaf. To the physicist this is apparently a very low efficiency process as so much energy is expended to no apparent purpose. This is even more disconcerting when he learns that these stomata are needed for the intake of carbon dioxide from the atmosphere and to close these or to do away with them would starve the plant. His only conclusion is that nature has erred somewhere in evolution for the lowliest of animals, such as a nematode, has both a mouth and a separate excretory pore.

On the other hand the plant physiologist knows that the plant machine is not entirely wasting energy by pushing water through the plant as this water conducts nutrients to the most remote tips of the leaves. Also the absorption of large quantities of water by the roots depletes the water content of the rhizosphere so more water flows into this volume down a water potential gradient bringing with it more nutrients to be absorbed.

The fact that one single type of orifice controls both the carbon dioxide and water entry also has some physiological advantage as both can close the stomata in the event of water shortage or high internal carbon dioxide concentration when no more can be used.

It has been observed that a plant in an

atmosphere which is constantly saturated with water vapour, stops growing. While some water molecules will leave the stomatal cavity under such conditions just as many molecules re-enter the cavity, so the net water loss is zero and the conduction of nutrients into and up the plant is minimal.

**Evaporation.** The nutrient flow in the transpiration stream in the conducting tissue of the plant depends therefore, on evaporation of water from the water vapour saturated stomatal cavity in the leaf, to the open air and the driving force for this evaporation is the saturation pressure deficit between this cavity and the atmosphere.

The Law of Partial Pressures states that the total pressure exerted by a mixture of ideal gases is the sum of the pressures exerted by each one. So the total pressure of the atmosphere is P where

$$P = P_a + e \quad \text{---(1)}$$

$P_a$  is the pressure exerted by the air and

$e$  is the pressure exerted by the water vapour in the air.

Some liquids evaporate readily, examples are ether, acetone and ethanol, others less readily. Water, while a common substance is unusual, it has a maximum density at 4°C which is unusual for a liquid, it has a very high specific heat and exists in three phases under ambient earth temperatures. It also takes in and gives out considerable amounts of heat when changing phase, eg, liquid to vapour. These properties are largely due to the formation of hydrogen bonds between the molecules in the liquid phase.

Evaporation occurs when molecules of a liquid succeed in overcoming this bonding. While at any given time the molecules of water are hydrogen bonded these bonds are very temporary having a half life of one nano-second ( $10^{-9}$  seconds) so molecules becoming temporarily unbonded can escape into the atmosphere so constituting a water vapour in the air. These molecules are active, the degree of activity being temperature

dependent and some return to the water surface and are again rebonded.

There is a limit to the number of water molecules which a given volume of air can hold at a given temperature and when this is reached the air is said to be saturated. The warmer the air the more water vapour molecules it can hold before reaching saturation as will be evident in what follows.

These water vapour molecules, which are gaseous, have a pressure (e) as mentioned above, and this pressure is measured in pascals (Pa) which is the standard SI unit for pressure. However, meteorologists who are concerned with air pressures still favour the bar (or millibar) which is a permitted unit under the SI rules for a limited time. It seems to me that it will take a clear generation of meteorologists before the millibar disappears from general use. It is a convenient unit to use, the pressure at sea level is taken as 1 000 millibars (mb) but could just as easily be taken as 100 kilopascals, so 10 mb = 1 kPa.

As plantsmen and meteorologists have something in common I will use the millibar in this paper while noting that kPa would be somewhat more correct.

To return to water vapour pressure, the water vapour saturation pressure in air at various temperatures is given in Table 1 and the following calculations will illustrate various quantitative aspects. In addition Figure 1, which is based on Table 1 and some of the calculations here-in, serves to illustrate pictorially the various measurements of water vapour pressure and humidity.

In respect of both Table 1 and Figure 1 it can be seen that as the temperature of the air increases so the saturation vapour pressure (millibars) increases as more water is held in the air.

Evaporation from a water surface is illustrated by the Dalton equation where —

$$E = k u (e_s - e) \quad \text{—————(2)}$$

where E is the evaporation in mm day<sup>-1</sup>

k is a constant depending on the nature of the surface and wind turbulence.

u is windspeed in m·s<sup>-1</sup>

e is the water vapour pressure of air at some point above the surface.

e<sub>s</sub> is from Table 1.

In practice the equation is difficult to use because it is not easy to measure some of the parameters but it does illustrate the principle

**Table 1**  
**Saturation Water Vapour Pressure (e<sub>s</sub>)**  
**in Millibars**

Temp.	+0	+5	Temp.	+0	+5
5	8.7	9.0	21	24.9	25.7
6	9.3	9.6	22	26.4	27.1
7	10.0	10.3	23	28.1	28.9
8	10.7	11.1	24	29.8	30.7
9	11.5	11.8	25	31.7	32.6
10	12.3	12.7	26	33.6	34.6
11	13.1	13.6	27	35.6	36.7
12	14.0	14.5	28	37.8	38.9
13	15.0	15.5	29	40.1	41.2
14	16.0	16.5	30	42.4	43.6
15	17.0	17.6	31	44.9	46.2
16	18.2	18.7	32	47.6	48.9
17	19.4	20.0	33	50.3	51.7
18	20.6	21.3	34	53.2	54.7
19	22.0	22.6	35	56.2	57.8
20	23.4	24.1	36	59.4	61.0

For example, at a temperature of 24.5°C the water vapour pressure under saturated conditions is 30.7 mb.

quite well. To obtain evaporation we need air movement, otherwise in a 'closed space' containing plants e becomes equal to e<sub>s</sub>. A bundle of air not in motion is considered, in the short term, a closed space insulated from its environment.

Also we need a water vapour pressure difference known as the Saturation Pressure Deficit (SPD) = S

$$\text{where } S = e_s - e \quad \text{—————(3)}$$

This is the difference between the possible and the actual water vapour pressure.

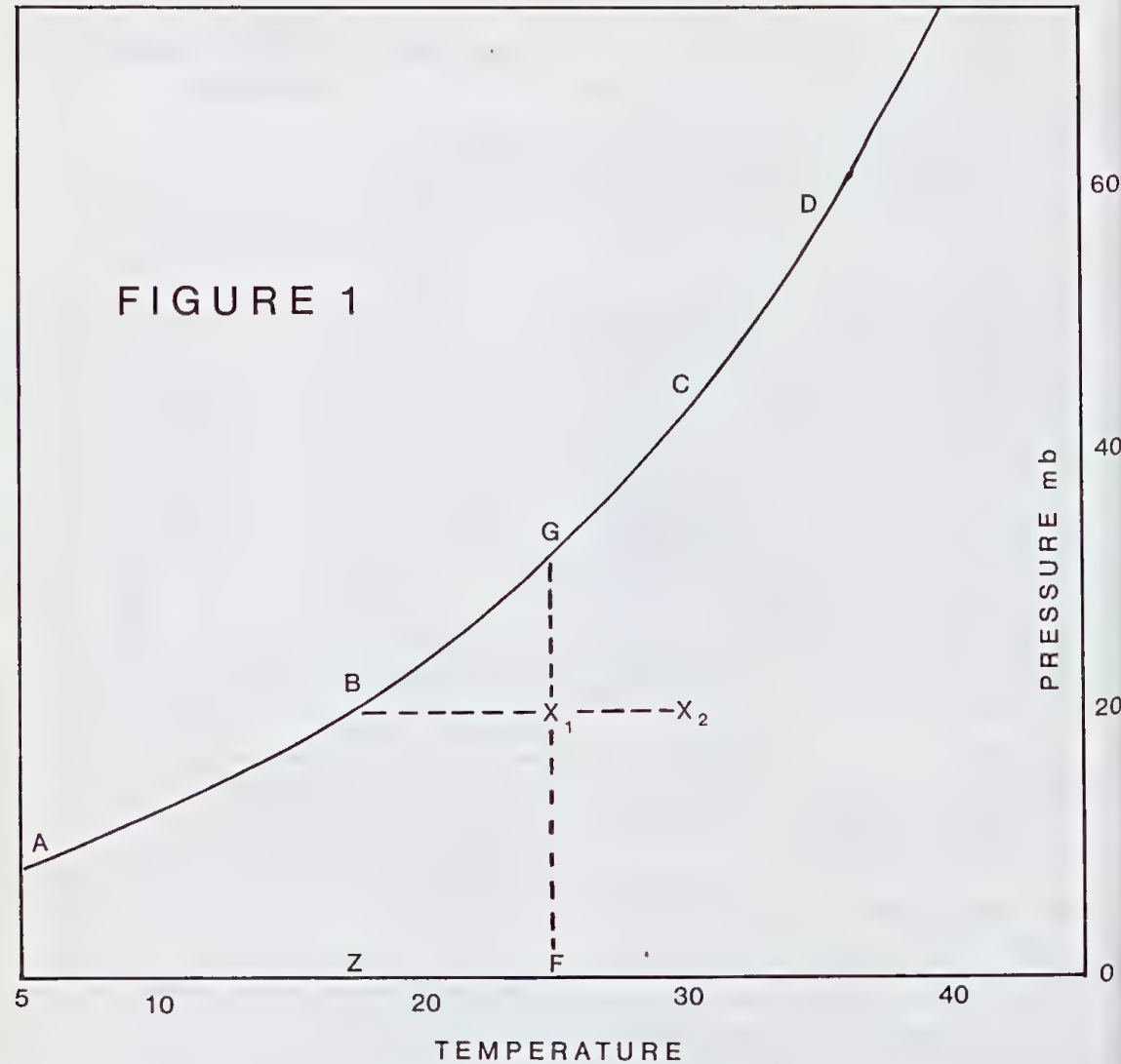
Orchid growers will be familiar with the need to ventilate a glasshouse, mostly explained by the need to prevent fungal spores from settling but it is equally important to increase evaporation from around the leaf surface, where the amount of water vapour may be high. This high e value causes a reduction in the value of S.

Probably few growers have an anemometer in the glasshouse or bush house, to measure wind speed, but many must use a fan to force ventilate. It has been accepted by many that the air movement is adequate when the racemes are just moving gently. The adequacy of this form of measurement depends on the S value also being adequate.

To maintain a given rate of evaporation from the leaves a higher rate of air movement is needed if e becomes high (S decreases) so



FIGURE 1



it is not just a matter of moving X number of m<sup>3</sup> of air per minute and saying that this is optimum, the **S** value must also be significant.

How does one determine **S**? Fortunately the equipment is simple and most of us possess it. A dry and wet bulb thermometer is the only requirement. This must be placed in a well-aerated position, in the wind, in air from a fan, or swung around in the air by a pivoting handle until the readings are constant.

Suppose our two readings are —  
T<sub>dry</sub> = 25°C and T<sub>wet</sub> = 20°C

The value of *e<sub>s</sub>* is obtained from Table 1 using the dry bulb reading, ie, 25°C so *e<sub>s</sub>* = 31.7 mb .

The value of *e* is obtained simply from Regnault's equation given below for 1 000 mb (sea level) and 20°C.

$$e = e_s(T_{wet}) - 0.66(T_{dry} - T_{wet}) \quad \text{—————(4)}$$

From Table 1, at a temperature of 20°C (T<sub>wet</sub>), the

value of *e<sub>s</sub>* = 23.4 mb .

so *e* = 23.4 - 0.66 (25 - 20) = 20.1 mb .

so *S* = 31.7 - 20.1 = 11.6 mb .

If T<sub>dry</sub> was 25°C and T<sub>wet</sub> was 24°C then the value of **S** would be 2.6 mb .

The value of 0.66 is called the psychrometer constant and remains close enough to 0.66 throughout the temperature range 10 to 30°C. For readers living at an altitude of 1 500 m (850 mb) or similar altitude may use 0.56 as the constant over the same temperature range.

**Latent Heat.** When water changes from its solid phase of ice to a liquid it releases 340 kJ kg<sup>-1</sup> of heat energy, a point of great interest to the plantsman who has to contend with frosts. More significantly for the orchid grower who needs to cool a glasshouse in summer, is the latent heat of vapourisation of

water. At 30°C when we commence to think seriously of some rapid cooling, it takes 2 430 kJ kg<sup>-1</sup> of heat energy to change liquid water into water vapour. This is the principle of evaporative cooling where the heat energy is extracted from the air to change liquid into vapour without a change in temperature of either the liquid or the vapour. The energy is required to rupture those hydrogen bonds mentioned previously.

When water vapour condenses and becomes liquid it gives out this same amount of heat energy to the surface or surrounding air, thus warming it. This point will be mentioned later in respect of dew formation.

**The Saturation Curve.** In Figure 1 the curved line ABCD is the graph of the saturated water vapour pressure against temperature and shows pictorially what happens when the temperature or pressure changes or remains fixed.

The value of **S** may also be described by reference to Figure 1. Imagine a parcel of air (eg, a glasshouse) at X<sub>1</sub> where the temperature is constant at 25°C and the water vapour pressure (e) is 20 mb.

$$\text{As } S = e_s - e$$

$$\text{then } S = FG - FX_1$$

$$S = 31.7 - 20 = 11.7 \text{ mb}$$

as FG is the saturation vapour pressure at 25°C

To take a further example in which the temperature is lowered. Suppose a parcel of air is at point X<sub>2</sub>. Its temperature is 30°C and its vapour pressure is again 20 mb. If the vapour pressure is held constant and the temperature is lowered by following along the horizontal dash line we reach point B on the curve. At this point the air is saturated and the temperature is Z (17.5°C) which is called the dewpoint. Any further decrease in temperature causes water to settle out of the air but the system chases its tail somewhat for as the water vapour condenses, it releases latent heat, so increasing the temperature and moving it away from the dewpoint. The surface or air needs to cool again before reaching dewpoint. In addition to this, some water has condensed out so the vapour pressure is no longer 20 mb but something less than the line BX<sub>2</sub> which means that point B is no longer relevant. The vapour pressure is now lower and so is the dewpoint temperature, and so the process continues in steps. In practice this means that the surface upon

which condensation occurs must be something less than the dewpoint temperature for the original value of e to cope with this stepwise change from water vapour to liquid water.

**Absolute Humidity.** Another method of describing humidity is by the mass of water vapour in a given volume of air usually expressed as grams of water vapour per cubic metre of air. This is called absolute humidity and may be calculated from the expression —

$$\text{Absolute humidity} = \frac{217 e}{(273 + T)} \text{ g m}^{-3} \text{ —(5)}$$

where T is the temperature of the dry bulb and e is the vapour pressure in mb.

This expression is derived from the molecular weight of water and the gas constant and has been simplified as shown above. Sometimes it is useful to know this value so it has been included here. However, as stated earlier, it is the saturated vapour deficit (**S**) which is of importance in plant culture.

**Relative Humidity.** Readers who have come this far may well wonder at this belated mention of relative humidity which so often gains mention in cultural texts. One reads consistently that the 'humidity' should be at least A per cent or not less than B per cent or whatever. As percentage figures are quoted it is assumed that relative humidity (which has no units) is meant but such statements are useless without also stating the temperature.

An atmosphere with RH = 70 per cent (ie, 0.7 saturated) at 20°C will contain much less water vapour than an atmosphere with RH = 70 per cent at 30°C and the capacity to hold more water will be less in the first example than in the second.

For example:

At 20°C; RH = 70 per cent;  $e_s = 23.4 \text{ mb}$ ;  $e = 16.4 \text{ mb}$ ;  $S = 7 \text{ mb}$ ; and from equation 5 the absolute humidity is 12.1 g m<sup>-3</sup>.

At 30°C; RH = 70 per cent;  $e_s = 42.4 \text{ mb}$ ;  $e = 29.7 \text{ mb}$ ;  $S = 12.7 \text{ mb}$ ; and absolute humidity = 21.2 g m<sup>-3</sup>.

So there is quite a difference between the two atmospheres both having a stated RH of 70 per cent.

**Transpiration.** The evaporation of water from a leaf is rather more complex than evaporation from a pond or lake as given by equation 2. In a leaf the water is not on the surface but is in the cell wall matrix (the



apoplast) in the sub-stomatal cavity. So to evaporate, this water vapour must penetrate the stoma which may be open, closed or in some intermediate position thereby giving some resistance to the flow. The driving force to overcome this resistance is the Saturation Pressure Deficit ( $S$ ) (Equation 3) and we may conveniently make an electrical analogy with Ohms Law which states that the current flow ( $I$ ) equals the voltage across the circuit ( $E$ ) divided by the resistance ( $R$ ).

that is  $I = E/R$

For the leaf the equivalent is —

$$\text{water vapour flow} = S/r \quad \text{—————(6)}$$

where  $r$  is the resistance to flow.

This water vapour flow is called transpiration ( $T$ ) and is measured in grams per square centimetre per second ( $\text{g cm}^2 \text{ s}^{-1}$ )

$$T = \frac{e(\text{leaf}) - e(\text{air})}{r(\text{leaf}) + r(\text{air})} \quad \text{—————(7)}$$

The  $e(\text{leaf})$  is often taken as  $e_s$  at the leaf temperature on the basis that the sub-stomatal cavity is saturated (a reasonable assumption). The  $e(\text{air})$  is something less depending on the water vapour content of the air around the leaf surface, hence the top line of equation 7 is equivalent to  $S$  of equation 3.

The  $r(\text{leaf})$  is made up from several resistances to water vapour flow within the leaf. The most variable resistance and the most important is due to stomatal resistance. When the stomata are closed tightly the  $r(\text{leaf})$  value is high, when open this value becomes quite low. At intermediate openings of the stomatal aperture we have intermediate values of  $r(\text{leaf})$  so it is obvious from equation 7 that maximum transpiration occurs when stomata are fully open. This assumes, of course, that the plant is supplied with adequate water and is not in a state of near wilt. Maximum transpiration means maximum transport of nutrients and maximum cooling of the leaf.

The value for  $r(\text{air})$  is somewhat more complex and needs some explanation. There are two processes involved in the transfer of water vapour from the leaf sub-stomatal cavity into the air. The first and minor one is convective transfer where air movement over the leaf is due to temperature differences causing warm air to rise and cool air to fall. If the water vapour content of the rising air is less than that surrounding the leaf then the  $S$  value will increase (due to  $e(\text{air})$  decreasing) and so increase transpiration. However, leaves do not exist in isolation. Consider a *Vanda* where the rising air, encountering a series of increasing  $S$

values will rapidly increase its  $e(\text{air})$  until the  $S$  values of the upper leaves will become negligible and  $e(\text{air})$  becomes near saturation. Convection is only evident in isolated packets of air which may occur in a poorly-ventilated position in a glasshouse.

The second method for the transfer of water vapour from the sub-stomatal cavity is turbulence in the air stream either driven by wind or forced ventilation. In this case the wind speed  $u$  is important as also shown by equation 2. The zone of air next to a surface, where the velocity is reduced below that of the main air stream by friction between the surface and the air flow, is called the boundary layer. The pattern of movement in this layer may be laminar, where air movement is parallel to the surface, or it may be turbulent, that is, in eddies.

If air flows over a smooth plate the transition from laminar flow to turbulence occurs when the Reynolds number exceeds some value between  $10^4$  and  $10^5$ .

$$\text{The Reynolds number} = \frac{u d}{15 \times 10^{-6} \text{ m}^2 \text{ s}^{-1}} \quad \text{—————(8)}$$

where  $u$  is windspeed in metres per second ( $\text{m s}^{-1}$ )

$d$  is dimension of surface, in metres, parallel to wind flow from which it can be seen that the Reynolds number is dimensionless.

However, leaves are not smooth plates. They have veins and trichomes to increase turbulence. Additionally other leaves and stems located upwind also increase turbulence so I have reduced the Reynolds number value by one order of magnitude to  $10^3$  and in a glasshouse with many plants and forced ventilation a case could be made to reduce this value to 500.

If we consider a leaf say two centimetres wide (0.02 m) such as a *Vanda* with the wind blowing along the length of the leaf then by transposing equation 8 and using  $RN = 10^3$  we have —

$$\frac{10^3 \times 15 \times 10^{-6}}{0.02} = u \text{ in } \text{m s}^{-1}$$

or 0.76 metres per second as the minimum wind speed to produce turbulence for improved transpiration.

For terete leaves having a diameter of say 0.5 cm (0.005 m) the required wind speed along the leaf is —

$$\frac{10^3 \times 15 \times 10^{-6}}{0.005} = 3 \text{ m s}^{-1}$$

or 4 times as great.

This type of information is useful for glasshouse planning to ensure that sufficient wind speed from forced ventilation is used to create turbulence around leaves. For very smooth leaves having no protruding veins and no hairs and not close to other plants the  $RN'$  can be increased above  $10^3$ , say to  $3 \times 10^3$ . For more realistic conditions where other plants are present in some profusion the  $RN$  value can reasonably be reduced to 500. For irregular leaves  $d$  is the average width measured downwind, for near circular leaves use the diameter or a figure slightly smaller than the diameter.

By calculating the desired  $u$  value for a variety of leaves likely to be present one can then design for either the maximum value or an intermediate value of wind speed depending on the relative amount of the various leaf types in the crop.

When the air flow is laminar the  $r_{(air)}$  value is high as movement is largely by molecular diffusion hence transpiration  $T$  is low. This means that both nutrient movement and leaf cooling are also low. When turbulence occurs  $r_{(air)}$  is greatly reduced so increasing  $T$  with its advantages. Obviously from equation 7  $T$  is maximum when the stomata are fully open ( $r_{(leaf)}$  is minimum) and when there is turbulence around the leaf.

However, this raises the question of when are the stomata fully open? Many orchids are CAM plants and their stomata open at night to fix  $CO_2$ . When daylight comes the stomata close and the fixed  $CO_2$  is processed into other compounds. Further discussion on CAM is outside the scope of this paper but orchids conforming to the CAM pattern are listed by Avadhani *et al* (1982).

If we accept that CAM orchids retain their CAM properties under glasshouse cultivation and not revert to  $C_3$  metabolism then it is important to foster transpiration by creating turbulence at night. I suspect that this is rarely done except on very hot nights when a fan may be left on (or thermostatically turned on). On colder nights a fan heater may create both warmth and some turbulence almost by accident, although it is doubtful whether the air velocity would be sufficient at any significant distance from the fan. These points are worthy of further thought when designing a glasshouse.

**Some Speculation.** There is currently speculation that the CAM type of metabolism

is quite old in the evolutionary tree and not a process developed recently by advanced plants. Carrying this thought a little further one may consider that both CAM and  $C_3$  metabolism ( $C_3$  is the type present in most flowering plants) are present in the genome of many (or all) plants and the CAM property is not expressed until such time as the plant needs it.

The amount of DNA in the nucleus of an organism is no indication of its complexity. Man is regarded, along with other mammals, as a complex organism yet there is more DNA present in many plants than in Man. Typically the lily contains many more base pairs in its genome (hence potential complexity) than mammals and the Orchidaceae and Liliaceae are closely related.

The DNA code in the genome is transcribed wholly and fully into messenger RNA (mRNA) in the nucleus. All of the genetic coding to give the plant its structure and function plus all genetic coding not required by the plant is transcribed into mRNA. Before the mRNA is released by the nuclear membrane into the cytoplasm for translation into protein a considerable editing takes place. The genetic coding not required for the structure and function of the plant (called "introns") is removed from the mRNA and the ends of the wanted parts spliced together, the whole then being sent into the cytoplasm. On this basis it can be speculated that a feedback mechanism may exist to prevent the removal of certain introns and so change the metabolism of the plant from  $C_3$  to CAM, or to reverse this. That is, the genome is not changed, it remains in a highly-conserved state, but the parts of the genome expressed can perhaps be changed. The point of interest here is that organisms have a large potential for phenotypic variation (structure and function) rather than a potential for genotypic variation of the DNA.

**Conclusion.** The mathematics for leaf transpiration can be more complex than the simple explanation given herein but the extra complexity does not seem justified when one is using data not having a high degree of accuracy or are difficult to measure. The aim of this paper has been to describe the principles involved in transpiration so the grower may improve conditions.

The speculation on structure and metabolism is based on some known facts about



DNA to protein synthesis. It has, for some time, been a central dogma of biology that changes in DNA of a cell can modify the structure and function of an organism but the environment cannot cause a reverse-flow effect and modify the DNA and so produce a new species from the seed of an environmentally-changed individual (tall or dwarf plants). Recently this dogma has been questioned and the study of introns and their expression or otherwise may, in the near future, throw more light on the speciation of organisms. In the meantime one can only speculate and become aware that we still know very little about plants.

#### REFERENCE:

Avadhani P.N., Goh C.J., Rao A.N., Arditti J. (1982) Carbon Fixation in Orchids, in *Orchid Biology, Reviews and Perspectives II*, Ed. J. Arditti, Cornell University Press.

#### THE SPECIES TREND

Mr Dick Searle, writing in a recent issue of the QOS Bulletin says, "the plants tabled provided an excellent show especially on the species table. *Miltonia flavescens* with at least fifteen spikes, each carrying ten or more blooms, was a plant of which Mr Kruger can well be proud. Along with *Schomburghia tibicinus* carrying a two-metre spike, *Cattleya walkeriana* displaying its unusual flowering habit, a good specimen of *Oncidium spatulatum*, *O. papilio*, and the clean white with purple lip of *Laelia purpurata*, plus many other species, provided excellent proof of how popular the culture of species is these days".

This trend is not just peculiar to the QOS. Species are being benched prolifically at monthly meetings at most societies in Australia.

#### NEW SECRETARY AT TOWNSVILLE OS

Mrs S. Keith is now secretary of TOS. Mail should still be addressed to PO Box 83, Townsville. Phone number is (077) 78 6460. Mr R. Robinson continues his successful role as president, with Mr W. Nicholson as senior vice-president and Mr L. Arrowsmith as treasurer. Pioneer-grower, Mrs I. Nott, has long been patron.

The retiring secretary, Mrs Sandy Goldsworthy, did a terrific job of work, particularly over the Eighth Australian Orchid Conference period.

#### SHOW WINNERS

Undoubtedly the cymbidium which captured all imaginations in 1984 has been Bob Hodgins' C. Jubilation 'Geronimo'. It was Grand Champion at Melbourne Eastern OS Spring Show, and at the VOC Keysborough Spring Show. It capped the latter with a First Class Certificate. It is notable for superbly-shaped flowers well displayed on a firm spike. The flowers were a magnificent golden yellow with red-flushed lips.

It is pleasant to see judges getting FCC-conscious again. It's been a long time since the last time. There's no doubt however that C. Jubilation 'Geronimo' has established the standard for years ahead.

Jumping up to Brisbane it's entertaining to learn that at the Orchid Species Society Spring Show *Phalaenopsis schilleriana* was Champion for owner Mr S. Horvath. The same species also won the OSNSW Spring Show for Mr R. Zeller.

Back in Melbourne the Maroondah OS, which stages a magnificent spring show, also had a species as Champion of the Show. None other than *Dendrobium linguiforme*, flowered by F. & H. Tate. What a profuse and lovely display is made by this unique and lovely Australian native. This is not the first time it has been a Grand Champion as it made the grade at Newcastle two seasons ago. Not only is it unique vegetatively and florally, but also because it is the type orchid on which the genus *Dendrobium* was founded.

At the Newcastle Combined Societies Spring Show Mr Brian Jacob had the Grand Champion with his *Cattleya* Sylvia Fry 'Supreme'.

- In 1877, a young science teacher presented a paper to the Manchester Microscopical Society on the pollination of *Orchis muscifera*, common name Fly Orchid. He watched a fly visit the orchid and wrote: "To me . . . it seemed obvious that the male insect came to the flower mistaking it for a female". This would be the first reporting of the fertilising of an orchid by pseudocopulation. The teacher was H.G. Wells, later to become a famous writer.

- ". . . the orchid family appears to have originated in Malaysia during the Cretaceous period, then gradually expanded to other tropical and warm-temperate zones during the Tertiary." Dr L.A. Garay in *Proceedings of the Fourth World Orchid Congress*.





## ***Colour at Roselands***

### **NSW 50th Anniversary Photographic Competition**

## ***Girl and orchids***



The competition was a very successful feature of the Orchid Society of NSW's Golden Anniversary celebrations. Mr Barry Long, who took these entries, won more sections than any other competitor but just missed out on the grand prize.

Barry says of his photography: "I was always taking photos of orchids since I received my first camera, a 'Rollie' 4 x 4, which I still have in good condition. For the competition I must have taken enough slides to fill six 120-roll cassettes. These were taken with a Minolta X07 using a Vivitar Series 1 lens. It is the best lens to take orchids with because it is a 'macro'-type, designed for close-up use.

One of the photos has my daughter next to a feature wall, the other was taken at the Roseland's 1984 Spring Show.

All my photos were taken with an electronic-flash, automatic camera". Congratulations Barry.



# FERTILISERS AND MAGIC WATER

## *The right result for the wrong reason?*

ALVIN BRYANT

If you have been fired with enthusiasm over the articles on fertilisers you have been reading lately that is good. If you tried them and have been pleased with the results that is even better. It will be better again if fertilisers are fitted into the overall needs for cultural excellence as we shall see.

Over the years most of us will have seen a number of instances where a grower has made the resolve to "feed" his orchids properly and substantial improvements have resulted. Always however there has continued the search for the better fertiliser or the better compost and so we see the never-ending cycle of change and enquiry.

In all this endeavour however, there is a contradiction. Doesn't it seem odd that some growers have been consistently obtaining superb results over time without having used that latest fertiliser? Is that grower using something he is not talking about or is it something else? Why is it that reputable growers can report growth advantages each time a new fertiliser is tried? Is it that the newer fertilisers are better or is it something else?

If you observe what happens when a grower tries out a new fertiliser or resolves to regularly "feed" his orchids a common factor emerges. In each case where the improved result occurred you will find the grower had to give methodical attention to his watering in order to apply the fertiliser. Further, if you check any of the growers who have an outstanding record you will find without exception they have given meticulous attention to their watering. If water is the common factor to outstanding culture and a particular brand of fertiliser is not, then it is the water we should be looking at and not so much the fertiliser. If this is true then the right result has been gained for the wrong reasons.

If you want top results in culture then it is classical and simple. Further, it can be easily understood so you do not have to blindly follow what someone else is doing. You might think of it as the "magic water" formula to put the emphasis in the right place for if you know

what water does then you know the classical pathway to plant perfection.

When a grower talks of "feeding" his orchids and is referring to fertilising them he has taken the first wrong step for the bulk plant food is carbohydrate. This is made from carbon dioxide and water — not the fertiliser.

It is not uncommon to see this type of thinking elsewhere in our culture. How many people try out numerous different composts when all that is needed is some sand and a little understanding? In fact it is possible to gain optimum results using any one of a whole range of fertilisers or composts.

The "magic water" formula has two parts. The first is concerned with maximising carbohydrate formation and the second with maximum use of that carbohydrate. Here is the formula — with reasons.

For carbohydrate formation (1) sunlight (2) air and (3) "magic water".

The sun is the energy source and its actions on the chlorophyll in the leaf enables two chemical actions to take place (1) the water taken up is broken into hydrogen and oxygen and (2) the carbon dioxide taken in is combined with this hydrogen to form carbohydrate. (In this process think of some of the sun's energy being locked into the carbohydrate for future release).

Plants should have sunlight on them as long as possible during the day to optimise the energy available for carbohydrate formation. The maximum leaf area should also be exposed so care should be taken not to have them too close together. A common method for pot spacing is to have a pot space between each pot. Add to this the special property of most orchids in that they do not like full sunlight. Further, light travels in straight lines and it is not enough to think a plant is in a well-lit situation. Check it out by observing if the sun's rays would actually reach the plant with only the presence of a filter between the sun and the plant. (A figure of 30 per cent to 50 per cent is often given for the Sydney region).

This gives the cultural rules whereby a plant should have filtered sunlight on the

maximum of leaf area for as long as possible during the day.

The next cultural rule is the one about which this article hinges for there can be no carbohydrate manufacture without the water and carbon dioxide. Assuming air movement is adequate then the carbon dioxide supply will be adequate. It is the adequacy of the water supply however where I believe most growers fall down. A continuous supply is necessary or the plant has to stop its carbohydrate manufacture. Orchids do not show this as other plants do and it is a good idea to have a few coleus plants in with the orchids as indicators. If you try this then you will be surprised at how often you see them wilting.

The second cultural rule is now self-evident for it can only be to ensure that adequate air movement and water is present.

If I could put the next step in small print I would do so for fertiliser is needed in only minute quantities in relation to the air and water. This should be balanced with the fact that even the most minute cultural requirement if ignored becomes limiting to the plant. Fertiliser can be released from the organic material in the compost or from chemical application. If the plants are to be grown under controlled conditions then it has to be chemical application with leaf analysis to make sure the rate of uptake can be monitored and varied to ensure it meets the pre-determined optimums. It is here the hobbyist grower is disadvantaged for he will have to rely on observation and trust that the fertiliser will do what is claimed of it. As a rule of thumb (and I restrict this to cymbidiums) there seems to be a consensus among growers that fertilisers for growing should have about twice the nitrogen level of fertilisers for flowering and fertilisers for flowering should have a nitrogen level of about two per cent of the dry weight of the leaf. If N, P, K figures are meaningful then a fertiliser with a 13, 5, 18 listing should be looked at carefully for flowering cymbidiums and recommended application strengths should never be exceeded.

Of course I must insert another barb at this point by mentioning the fact that only the fertiliser which is dissolved in water is taken up by the plant so once again water is the limiting factor.

It can be seen that water, the magic component of the bulk plant food could not work its magic unless sunlight and carbon dioxide

were also considered. Now there will still be no magic unless the plant can use the carbohydrates.

Both plants and animals have a respiration process in which the carbohydrates are broken down. In this the earlier process is virtually reversed for oxygen is taken in, combined with the hydrogen to form water, and carbon dioxide is given off. The energy trapped from the sun is released and this enables living organisms to function. For a plant however, the rate of respiration increases with the rise of temperature. This is why growth can be accelerated by raising temperatures and retarded by lowering them. Experiments on record show quite clearly how the application of cold water can retard growth. As the respiration rate for plants and animals is a continuous process through both day and night, it is obvious that a plant must produce enough carbohydrate in the day time to last it through the night. If temperatures are raised too high in the night time this reserve can be exhausted. A good example of this is seen when cymbidium growers bring their flowers in early with heat but to excess the flowers are small, soft and have no shelf life.

This gives the next cultural rule whereby plant growth can be accelerated by raising temperatures to better utilise carbohydrate reserves.

Now when my attention focussed on the magic water I was faced with a problem. How could a continuous supply of water be guaranteed to a plant without interfering with respiration? It seemed a very fine balance between maintaining air spaces for respiration and continual and adequate water particle size. The gravel culture techniques seemed to be most promising for there was no reason why a plant could not be grown in sand in a pot using the same principles. I disciplined myself for several seasons and grew several benches of plants with each bench having a different compost. The sand compost and the straight peat moss composts came out equally on top so I changed to a sand compost. To my surprise however, another bench not in the test did better than the test benches. These plants were growing in sand and the galvanised top had sagged so that the pots were continuously in about one and a half inches of water. I pulled the plants out of the pots and the roots were all perfect. Their continuous immersion had not affected them. Here was a cultural bridge which I should



have put together long ago. In true hydroponics roots live under water because dissolved oxygen is carefully maintained and their respiration process can continue. What had inhibited my thinking and no doubt that of others was the textbook situation where growing techniques must be put forward for soils. Here because of organic content, dissolved oxygen is lost and roots die if there is too much unchanged water. With pot culture however both the amount of organic material and the frequency of water change can be controlled. As a result the cultural rules for different conditions can be formulated. (1) With organic composts the traditional techniques hold up, namely keep the plant moist but not wet. Providing the pot drains readily adequate oxygen should be available. (2) If the pot is too wet then there is competition for the available oxygen between the roots and the decomposing organic matter and the roots may die (3) if however the watering is frequent enough the roots may not die because the existing water is replaced with fresh oxygenated water. With inorganic potting material however, it is much simpler; the pot may be kept wet for there is no competition for the dissolved oxygen in the water and the water (with fertiliser) may be changed readily. The cultural rule then is to keep at an optimum both the respiration rate and the water uptake.

If you think about it the understanding of the dissolved oxygen role is the bridge of understanding between the soil and the soil-less or inert-compost cultures. If you also can see water not just as a word but as "magic water" and take the time to understand it then you have the formula for cultural excellence.

18 Kangaroo Point Road, Sylvania.

"Inasmuch as it comprises more than 90 per cent of the weight of the orchid plant, water is a good starting point for a discussion of orchid-plant nutrition. Water is the medium whereby the mineral nutrients are absorbed by the plants, as well as the medium for metabolic reactions within plants. But water is more than just a medium of transport of nutrients, for, in the processes of nutrition, water is metabolised into the composition of the plants as a source of hydrogen and oxygen. Although it is not the direct source of oxygen for respiration, it does, nevertheless serve as the medium of transport for this important nutrient." Dr O.W. Davidson.

## A MATTER OF MUCH TRUTH

"Truth", said one Greek philosopher (was it Diogenes?) "lies at the bottom of a well". Now down Mornington way they know this is not true. It lies down in the orchid house.

A frustrated anonymous contributor wrote the following for the *MPOS Orchid News*. The anonymity has no doubt caused some growers to eye their partner with suspicion.

Anyway orchid wives invariably have the satisfaction of knowing where their husbands can be found.

**Class:** Non-orchid Grower x Fanatical Orchid Grower (Slipper).

Looking at it from a non-orchid grower's point of view, it seems justifiable to assume that a different lingo, lifestyle and love occurs between plant and owner.

That is, is it sound in saying that a NOG (non-orchid grower) is ignorant when trying to participate in a typical conversation that revolves around Chamberlianianianianums, bed socks — or is that supposed to be slippers, supercools, cats (and dogs?), pouches (are we referring to kangaroos, or what), chit chats, etc, etc? The language is never-ending.

The average NOG's (non-orchid grower's) lifestyle is also influenced by these plants. It's astonishing to calculate the amount of time they receive.

I must remember:

- Don't organise any social functions for
  - 2nd Monday of every month
  - 4th Friday of every month
  - 3rd Tuesday of every month
- Every Saturday morning of every week — plants have to be inspected after each meeting to ensure no damage was done.
- Extra time for preparing speeches when called upon.
- Extra time for photographing winning specimens.
- Extra time for **thanking** orchids for all the ribbons, first prizes, glasses and **cultural certificates** acquired.

Any spare time a FOG (fanatical orchid grower) may have is devoted to watering, fertilising, nourishing, cleansing, toning and moisturising, and any other beauty treatment on hand.

It seems odd to think that it is possible for competition to exist between human and plant — but it does!

Anonymous

# ORCHID NUTRITION

**Fertilisers and composts are the most talked about subjects in orchid culture. As the article in our December 1984 issue showed fertilisers took up a large part of the proceedings of the RHS Orchid Conference held in 1885.**

There has been a lot of interest in recent articles on nutrition. One reason for publishing them was to stimulate some interest among manufacturers in the production of fertilisers specially formulated for orchids.

The Poole and Seeley study (Journal of the American Society for Horticultural Science, Volume 103, No. 4 1978) and a further one by Poole and Sheehan (Orchid Biology II, pages 195-212, edited Professor Arditto, published Cornell University Press) did much to establish the nutritional needs of the main horticultural orchid genera. Mr W.R. Johnson capitalised on these results and established by experiment that they worked well for him.

Mr Johnson has said that he knows his results will by no means be the last word on the subject. Possibly the only way to achieve optimum results would be to regularly analyse the water supply; have regular leaf analyses carried out; establish the exact needs of each genus grown at each stage of age and season; and use a computer to monitor the correct input of nutrients into the watering system. A tall order.

Many growers have been using Mr Johnson's method for over two years with excellent results. It may be a weakness in that it is purely an inorganic system. Mr Johnson has mentioned that organic fertilisers could have a place in a nutrient programme.

Inorganic, or purely chemical fertilisers are only a fairly recent development in plant nutrition. They came into use in the late nineteenth century when leaf analyses of vegetable material revealed the mineral content of plants. Chemicals were easy to handle, and in the case of fertilisers they were frequently by-products. They were also cheap. Less smelly too.

Advocates of organic fertilisers point out that their products do contain plant-growth substances such as gibberellins, vitamins, tricontanol, and much else. A strong argument for them is that they promote essential bacterial activity in the potting mix.

Some things on the feeding of orchids are well established: First orchids respond to

added nutrients. Second, they are not fast growing and too much nourishment can lead to the equivalent of indigestion. They do best when fertilised in active growth, ie in accordance with their natural growth cycle.

Bearing the above in mind the best pattern to follow seems to be a mix of organic and inorganic. The ratio could favour the inorganic: say two inorganic to one organic.

Which brands to use is a matter for each grower to determine. Availability and costs are factors.

Although some brands are mentioned in AOR from time to time this does imply that they are necessarily better than others. The important thing is to learn the underlying principles of fertilising, watering and growing media. Often the application that works for one grower may not work for another. One must learn as much as possible from the experience of others. First by wide reading of books and publications but best of all by contact with experienced growers in your own area. Try out new ideas on a small but average group of plants. Sometimes it takes a whole season of active growth to know whether a plan is working for you.

## OTHER POINTS OF VIEW

Three fertiliser firms have sent comments on Mr Johnson's article. We print them for your consideration.

First a letter from Mr Scott Sinclair of Red Top Distributors Pty Ltd.  
The Editor,

Recently, a copy of the Australian Orchid Review's September issue has been brought to my attention. In it you have published a paper by Mr W.R. Johnson titled "A Simple Liquid Nutritional Programme for Orchids". My company is the Australian distributor of Phostrogen products, about which the article makes some unfortunate remarks.

I am bound to say that I find the article rather unscientific and extremely biased to say the very least. I find it very unusual that a publication of your standing does not vet articles more closely as incorrect statements



can often result in costly recompense. We have already heard of growers deciding to go away from Phostrogen, because it fared badly in this report, resulting in immediate loss of sales and brand-name damage.

Mr Johnson's errors start right from the beginning of his article where he does not even spell our name correctly. A particularly damning aspect of this article was the fact that Phostrogen was not even used in the tests — "but avoided — for good reasons" (although without explanation), after clearly stating that "all commercially-prepared products would be tested".

Phostrogen is extremely safe to use coupled with our recommendation for relatively dilute solutions, over extended periods, means that the application of Phostrogen can be easily varied to suit the growing conditions of the species involved, without the need for special additives. This is because the form and purity of ingredients used in Phostrogen insure maximum uptake of all the nitrogen provided, while the nutrients, including trace elements, calcium and of course sulphur, are absorbed at a controlled rate.

I find it amusing that this gentleman avoided Phostrogen when, in fact, Phostrogen is used and **recommended** by society members affiliated to the British Orchid Council, of which I hope, need no reference to their obvious knowledge on the growing of orchids.

Phostrogen contains a far better ratio of nutrients than the majority of any of the other materials tested, without any adjustment. This includes more iron, magnesium, manganese, calcium and sulphur, thus making Phostrogen far closer to the Poole and Seeley recommendation which he claims to have followed so closely.

The only real objection Johnson has to Phostrogen is its potash content and Poole and Seeley actually state that they were, "unable to affect flowering or growth by varying K levels", that cattleyas "increased growth with a high K, low P combination" (which is what Phostrogen has), and that therefore, "substantially higher amounts of K may not effect plant performance".

One criticism of Poole and Seeley is their failure to assess effects on flowering as a major part of their research when surely this is what orchids are grown for? In fact, the only reference to flowers in their work occurs in

Table 1 where the Phostrogen rate of N actually produces the best flower and **it is significantly better too!**

There are one or two additional points which support the Phostrogen case. The nitrate/ammonia balance, important for virtually all plants, is vital for orchids as it can effect the uptake of potassium; while excessive magnesium, in the presence of the high levels of calcium recommended by both parties, can effect root and leaf growth.

Phostrogen has the right nitrate/ ammonia balances, and although it may not therefore be necessary to add magnesium, should Mr Johnson still require his extra 25 ppm Mg in the solution, mixing one gram of magnesium sulphate (epsom salts) in every 10 litres of full-strength Phostrogen solution is a far easier amendment than the two complicated stock solutions he recommends to adjust, for example, Aquasol!

Phostrogen has never been known to have caused any damage whatsoever, and is used by professional growers and other societies all over the world, **without a single report of any adverse affects having been received in almost a quarter of a century!**

### Nitrosol

Dr G.P. Kauzal of Animeals Pty Ltd has also written. Nitrosol is mentioned by Mr Johnson as covering most of the nutritional needs of orchids.

Nitrosol is an organic having an N-P-K ratio approximating 15-4-11. It is rich in minerals and growth hormones.

Dr Kauzal has written:—

The Editor,

I am writing you again mainly because I am saddened by Mr W.R. Johnson's otherwise excellent article entitled "A Simple Liquid Nutritional Programme for Orchids" which appeared on page 197 of your Australian Orchid Review September Quarter Volume 43 No.3 issue, in which he classified Nitrosol under the heading of "rejected and untested fertilisers".

Although he admitted Nitrosol "did give adequate results" in spite of blocking up the filters in his fertiliser-injection system.

Triancontanol (an integral part of my world's patent) was also discussed as being of lesser importance not present in any other fertiliser yet an important growth factor.

Whatever experience Mr Johnson had with Nitrosol unfortunately was based on an

**obsolete formulation** and not the Nitrosol being made today.

Fully realising these deficiencies, early in 1984 an expensive Swiss homogeniser was installed. The product produced now is mayonnaise consistency. The bone and other animal tissues such as sinuses etc have been completely disintegrated **so the filters will no longer block up.**

There was another important improvement made; the analysis has been brought up to date. Even Aquasol, the star performer in Mr Johnson's experiment, needed "rebalancing".

Having given the reason for my letter I would like to draw your attention **to the anomaly** which exists in the same issue of your prestigious journal. Since it has world-wide circulation to the leading orchid growers it is even more important to bring it to your attention otherwise I would have ignored this issue. My bone of contention is that whilst Mr Johnson has "rejected" Nitrosol in his article, the inside back cover extolls and features the *Prize-winning Orchid as the Grand Champion of the Orchid Club of South Australia.*

Recently Mr Dunk of Western Australia, an enthusiastic use of Nitrosol, was the first prize-winner at the Western Australia Orchid Show.

Nitrosol became famous among the world's orchid growers because it is quite a unique blend of **liquefied blood and bone** and essential elements (trace and others) Mr Johnson named in his article. **Nitrosol also contains a rare compound found in all leaves called triacontanol** in the epithelial wax. This is a catalyst which plays an important role in the photosynthesis of the sun's ultra-violet rays in promoting growth.

Besides this, special attention is being focused on the form of soluble calcium which is incorporated and one of the important elements needed by orchids. To augment the need to stimulate growth of the plant (even during flowering time) Giberalline has been added and found that the liquefied animal organs and blood is an ideal media to keep Giberalline active for a long period, otherwise it is very unstable.

### Maxicrop

Maxicrop is rich in growth elements but low on N-P-K. It is beneficial but must be used with care.

The Editor,

The article by W.R. Johnson (September 1984) failed to mention the safe and beneficial way to use Maxicrop on orchids. In his work, Mr Johnson used Maxicrop at **double** the recommended rate (and hence the figures in Table 1 are incorrect for Maxicrop). It is true that at double the recommended rate Maxicrop can have an undesirable effect on some genera as outlined by Mr Johnson. However which product — even Mr Johnson's own formulation — when used at double the recommended rate would not give problems?

It is worth noting too that Mr Johnson says that iodine is an essential element for orchids. Yet his adjusted Aquasol does **not** supply this element. Maxicrop used at the recommended rate (1:1000) actually supplies iodine at 1 ppm — the ideal level for orchids.

The results of my almost 10 years of research into the effects of Maxicrop on crops and various potted plants has conclusively established that the biggest portion of the beneficial effects observed through its use are due not to elements present, but to the various natural growth factors such as the cytokinins and the B group of vitamins, which occur in significant amounts in this product.

Since Maxicrop is one of the very few readily-available products containing the essential element iodine it is beneficial to add it to Mr Johnson's formula. By doing so the orchids will not only receive this element but will also benefit from the natural growth factors.

Yours faithfully

Peter Abetz

B.Agric Sci(Hons), BD, MAIAS

### VALE — A GRACIOUS LADY

This editor has heard, somewhat belatedly of the death of Mrs Bobby Howcroft. The late Mrs Howcroft lived at Mackay, Queensland and was an orchid lover and grower all her life. Years ago I was privileged to have her take me through her large and well-kept collection. Her love and appreciation of her plants, and orchids in general, was most apparent and her enthusiasm came through to me. She was a member of the Mackay Orchid Society. Truly Mackay has lost a gracious lady.

Well-known New Guinea botanist and writer on orchids, Mr Neville Howcroft, is a son. It is easy to see where his great interest in orchids commenced. We console with him

Ronald Kerr



## THE AUSTRALIAN ORCHID FOUNDATION

## An Active Year

## EIGHTH ANNUAL GENERAL MEETING

The Australian Orchid Foundation's AGM took place on October 21, 1984. Twenty officers and members were present and apologies were received from 54 others.

Current officers were re-elected. Discussion centred on the matter of State chapters but this motion was lost. The balance sheet was discussed in detail. Good progress in all activities was reported.

The major project for 1984 was promotion of the English translation of Schlechter's *Orchidaceae of German New Guinea*. It is the only comprehensive work covering the area which is the centre of dendrobium and bulbophyllum distribution. These would be the two largest genera. The book is fundamental to a full understanding of them. There is much on other genera too. This huge volume is priced at \$150 and discounts apply to societies and approved bodies.

Other books are available from the Foundation.

*Odontoglossum* flasks are available from the Foundation at \$30.00 plus postage. They may also be obtained from Frank Slattery's nursery in Sydney and from Jim Mackinney in Brisbane.

Flasks of *Disa uniflora* will also be available in 1985. Last year growers from most parts of Australia tried them out with success. They followed the growing technique worked out by Gerald McCraith and published in AOR (September 1983). Orders should be placed now.

**Shadehouse projects.** The Foundation has contributed to the cost of shadehouses in the Adelaide Botanic Gardens and the Currumbin Sanctuary in Queensland. It has promised \$1,000 towards the cost of an orchid shadehouse at Coffs Harbour.

**Botanical plotting.** The Foundation is supplying equipment to assist Jennie Barnett in her census and distribution plotting of Victorian orchids. This is a long-term project.

**Pictorial book.** The object is to assist the publication of a book with pictures of every Australian orchid. Mr David L. Jones is being funded by the AOF for preliminary work on this project.

**Species Seed Bank.** Curator Graeme Banks and his son David have distributed hundreds of seed samples. Some nurseries are now offering seedlings from AOF-supplied seed.

**Paphiopedilum tissue culture.** AOR hopes to publish a report on progress to date in a future issue.

**New *Pterostylis* species.** Mr Mark Clements described several new species when at Kew. The AOF is paying for the botanical artwork for these.

**Postage stamps.** After lengthy campaigning by Gerald McCraith approval was given for an issue of four stamps. Mr McCraith invited well-known orchid photographers to submit suitable slides. The best of these have been given to stamp designers. The issue should be available about July-August 1986.

**Endangered species.** Flasks of endangered species are being made available by Mr Ian Walters of Townsville on behalf of the Foundation. Initial details were published in December 1984 AOR. The response has been excellent and reflects the wide interest in species and in conservation.

**Solomon Islands.** Dr Phillip Cribb whose visits to Australia and New Guinea were assisted by the Foundation late last year passed through Melbourne on his way to the Solomons and Bougainville. A book *A Preliminary Checklist of Orchids in the Solomon Islands and Bougainville* by P. Cribb and A. Thorne is now in press. A limited number of these will be available from the AOF at \$5.00 plus 80¢ postage. A donation above this price would help the Foundation's work. These areas border Nuigini and the distribution of orchids there is little known.

**General.** The above does not cover all the work of the AOF. Many of its projects in research and conservation are long range and continuing. The fundamental purpose of the Foundation is to assist, promote, support or provide grants to persons or group of persons wishing to engage in specialised work involving orchids. Any applicant may make a submission to the directors. If in order it is 'received'. It is then referred to the Research Committee (which is monitored by the

CSIRO) for valuation and recommendations.

To finance selected projects the Foundation depends on donations from people and societies. All donations are tax-exempt and all concerned with work for the Foundation do not receive payment.

Enquiries and donations should be directed to The Australian Orchid Foundation, 107 Roberts Street, Essendon, Victoria 3040.

## AOF FLASKS ARE SELLING FAST

Flasks of several odontoglossum crosses are now available from the Foundation priced at \$30.00 each plus freight. Send for list to Australian Orchid Foundation, 107 Roberts Street, Essendon, Victoria 3040. Flasks contain about 40 seedlings. NSW growers can obtain them from Frank Slattery at his nursery, 12 Eddystone Road, Bexley.

The Foundation has fulfilled its purpose of establishing the odontoglossum alliance in Australia and in 1985 will be phasing out of this activity. Many Australian nurseries will now be carrying this alliance. This may be your last chance to buy them from the Foundation. Hurry!

*Disa uniflora* in flasks of 15 to 20 seedlings are now available. For growing instruction see September 1983 AOR. Following Gerald McCraith's introduction of this beautiful South African terrestrial many growers were benching them at society meetings in 1984.

The Foundation was offering a special 20 per cent discount on Schlechter's *Orchidaceae of German New Guinea* for orders placed up to January. If you missed out you could ask if perhaps . . . ? This great work is essential to an understanding of our north Australian orchids as well as those of Nuigini. The cost is \$150.00, maybe less 20 per cent. Ask.

## ANOTHER IMPORTANT PUBLICATION

Dr Phillip Cribb and A. Thorne of the Royal Botanic Gardens, Kew, have completed A *Preliminary Checklist of Orchids in the Solomon Islands and Bougainville*. This is the first cataloguing of the orchids in this area which is rich in species. Genera overlap with those of Nuigini, Australia and islands of the Pacific.

The list will be of great value to all who are interested in orchid distribution patterns for whatever reason.

The list is of 34 pages in A4 size (twice the

size of this page) and will be available at \$5.00 plus 80¢ postage from the Foundation, 107 Roberts Street, Essendon 3040.

## CONTRIBUTORS AND DONORS FOR THE YEAR 1983-84

The directors gratefully acknowledge the following for their support of the work of the Foundation.

### Queensland

Queensland Orchid Society, Aspley Orchid Society, John Oxley and District OS, Mackay and District OS, North Brisbane OS, Orchid Species Society of Queensland, Pine Rivers District OS, Queensland Native Orchid Society, Rockhampton District OS, Southport Orchid Society, Sunshine Coast Orchid Society, Tropical Queensland Orchid Council, Townsville OS, Dr Ronald Collins, Dr Noel Grundon, W. 'Bill' Hardgrave, Dr Hugh Kunze, Marshall and Pat Krueger, Les Lobley, Jim Mackinney, Marj Purnell, P.K. 'Dick' Searle, Ron Williamson, Hal Young.

### New South Wales

Orchid Society of NSW, Orchid Society of NSW Ladies' Auxiliary, Bankstown Orchid Society, Blue Mountains District OS, Cymbidium Orchid Club, Cumberland OS, Hawkesbury OS, Parramatta District OS, Graeme Banks, Bob Deane, Erhard Husted, Wal Upton, Syd Waldie, Orchid Species Society of NSW.

### Victoria

Victorian Orchid Club, ANOS Victoria Group, Geelong Orchid Society, Maribyrnong Orchid Society, Warringal Orchid Society, Mark Blair, John Bradley, Greg Campbell, David Cannon, Graham Carr, John Currie, Phillip Evans, Frank Ettwell, Bruce Grose, W. 'Bill' Johnson, Gerald McCraith, Paul Phillips, Dr W.R. 'Bill' Rigg, Dr Arthur Parkin, Jim Rentoul, Helen and Barry Richards, Les Smith, Ray Smith, Jack Vaughan.

### South Australia

Native Orchid Society of SA, South Coast OS of SA, Roy Hargreaves, Syd Monkhouse, Ray Nash, Les Nesbitt.

### Western Australia

Albany Orchid Society, Harry Lodge.

### Tasmania

Tasmanian Orchid Society, Devonport Orchid Society, John Woodward.

### Overseas

Miss C.M. Allison, Dorset, England; George Hermon Slade, Vanuatu; George Woolfson, Michigan, USA.



## THUGE SUCCESS

# Endangered Species in Flasks

## FLASKS IN DEMAND

The AOF-sponsored flasking of endangered and rare species by Ian and Pat Walters of Townsville has proved a popular success. Immediately-available flasks went quickly. Since the policy is not to send flasks until almost ready for deflasking there will be a delay in sending some orders. When ordering do not send money. You will be notified when your order is ready and given the total cost, including freight.

In a letter to AOR detailing the great response to the December issue listing of rare species Ian and Pat Walters write:—

"We thank the Australian Orchid Foundation for this opportunity to actively contribute something to the future of orchid species and conservation.

"That we may contribute by propagating and furthering the cultivation of these beautiful, rewarding species orchids gives us great pleasure and we hope will bring pleasure to other growers of the rare and beautiful orchid species of the world."

And that sums up the major objective of the AOF.

## A NEW LIST

You may still order from the December list. The list below includes some natives from selected parents and some exotics which are virtually not otherwise obtainable.

*Dendrobium dicuphum* 'Album'. Northern Australia. The seed was raised from two plants rescued from a road construction site outside Darwin. Both parents were a beautiful sparkling white with excellent flower presentation.

*D. ruppianum*. North Queensland. The seed came from felled timber in the Wallamin Falls area. Flowers from this clone were a very nice creamy white and quite large. This species tolerates cool-growing conditions.

*D. bigibbum* var. *superbum*. The Queensland floral emblem. Help stop illegal-taking of our native flora. Seedlings from selected parents will ensure that most will have the beautiful full-magenta flowers of the parents.

*D. bigibbum* 'Album'. Both parents are the truly rare, exquisite, pure-white flower forms with green throats. The seed came from the

collection of a veteran North Queensland grower.

*D. albo-sanguineum*. Burma. Collected and sent to the Veitch nursery by T. Lobb and named by Lindley in 1836. It disappeared from cultivation for over a hundred years and was only rediscovered six or seven years ago. It produces two or three huge 10 cm flowers, each a beautiful creamy white or pale yellow with two large purple or crimson spots on the labellum. Only growing from seed will save this species from extinction.

*Neonella polystachys*. Madagascar. A dwarf Angraecoid similar in growth habit to vanda and appreciating high humidity and moderate shade. Up to 12 white and green flowers. It has an unbelievably-delicate, yet copious fragrance at night.

*Jumella major*. Madagascar. A dwarf Angraecoid plant with fan-like leaves. Responds to vanda basket culture. Bears one 5 cm sparkling white flower of artistic shape at any time during the year. Fragrant.

*Cattleya maxima*. Peru, Ecuador. Large (to 125 mm), rich and showy flowers, up to seven on a stem. Segments rose to lilac or purple-magenta. The lip is pale pink with beautiful purple veins and a central yellow band. Collection in the wild is banned.

*C. porphyroglossa*. Brazil. Pseudobulbs around 60 cm tall carry seven or eight 75 mm flowers. The flowers are heavy textured, very fragrant and long lived. Bifoliate leaves. Segments may vary from a waxy orange bronze to greenish. There is a rare yellow form. The lip is three-lobed, the side lobes whitish flushed with magenta, the mid-lobe a brilliant magenta-purple. No longer available from Brazilian nurserymen. These flasks will ensure the next generation.

*Dendrobium cruentum*. Burma, Thailand. A distinct and beautiful species of nigro hirsute section. Segments are a beautiful green, and the lip bright crimson-scarlet. The flowers grow in pairs from the ripened, leafless canes. There is a priceless genetic material for breeders in this species. It must be preserved.

*D. fimbriatum* var. *occulatum*. India to Thailand. Orange. Huge, fringed lip with two almost-black eyes. Strong grower to specimen

size. Very beautiful with great potential in any breeder's genetic pool.

*Oncidium cebolleta*. Mexico, Central America. An unusual terete-leaved oncidium. The branching spikes carry many 25 mm flowers, tepals yellow-spotted with reddish-brown. The lip is three-lobed and bright yellow.

## ORDER BUT SEND NO MONEY

There's a wonderful range of endangered species in the list above just waiting some tender loving care to ensure survival. Interest in species growing is rising everywhere and there are now five species orchid societies in Australia.

Flasks are \$12.00 each plus delivery costs. Air freight delivery to most postcodes in Australia is \$6.00 for one to 24 flasks. Delivery takes up to 48 hours to your door.

Do not send money with your order as some flasks may not be at best size to send. You will be notified when order is ready for despatch and given the total cost including freight.

Orders for these endangered specials should be sent to Ian and Pat Walters, 1419 Ross River Road, Kelso, Townsville, Queensland 4810.

This is a team effort on the part of Ian and Pat. Both welcome the opportunity to contribute to conservation and to the funds of the Australian Orchid Foundation.

## NEWCASTLE FORGES AHEAD

Newcastle OS gained 16 new members last year. Also a much-improved meeting place. The new venue has more room, better lighting, better facilities and ample parking. President Jean Latham has guided the society well, ably assisted by secretary Mrs J. Blackwell. Intending members or visitors can contact the secretary on phone number 57 2992.

## NEW NATIVE SOCIETY

As we go to press we learn of the formation of the Gold Coast Native Orchid Society. The new society is sponsored by the Gold Coast Orchid Society and its formation is a direct result of the wonderful work carried out by the Gold Coast Orchid Society in promoting and stocking the orchid collection at Currumbin Sanctuary. It is the intention of the new society to service the Currumbin orchid collection and conservation generally.

## CURRUMBIN SANCTUARY

### New Shadehouse Open

The first large shadehouse has now been completed and was officially opened on November 29, 1984. The opening ceremony was performed by Mr Barry Paget, standing in for Mr Jim Mackinney who was unfortunately indisposed. Present were the manager of the sanctuary, Mr John Rohde, president of the Gold Coast Orchid Society, and a group of invited guests.

The Currumbin Bird Sanctuary is now under the control of the National Trust. Public access is rigidly controlled and there is no way orchids can be surreptitiously removed.

Mr Joe Bailes of the Gold Coast Orchid Society Conservation Committee is the man who conceived and pushed along this project. He has been ably supported by Gold Coast members.

The first stage of this project involved the planting of masses of *Dendrobium speciosum* on a rocky hillside, surrounded by other native dendrobiums. These have flowered gloriously the last two spring seasons. Refer to page 248 of the December 1983 AOR for photograph and article.

This newly-opened shadehouse is the first of two. It is a large eight-sided structure with walls 2.4 metres high and a centre post of five metres. The floor is 13 metres in any direction.

The interior is landscaped with 30 tonnes of large rocks, gnarled logs and tree trunks. Shadecloth for this and another and yet-to-be-erected shadehouse has been provided by the Australian Orchid Foundation.

Many of the orchids in the new house have come from trees blown down by cyclonic winds in 1983. The Queensland Forestry Department is expected to provide orchids from felled trees.

Joe Bailes considers that the shadehouse is designed to allow the easy passage of people through it. Tens of thousands visit this wonderful sanctuary each year to see the remarkable bird life and native plants. The orchids further enhance its interest and educational value.

Donations of native orchid plants for this project will be gratefully received and well looked after. Contact Mr J.W. Bailes, 3 Jabiru Avenue, Burleigh Heads, Queensland 4220.



# ORCHIDS AUSTRALIA '86

## The International 10th Australian Orchid Conference

SYD A. MONKHOUSE

The friendliness of South Australians, alone, will always make an orchid conference in Adelaide something special and not to be missed. Orchids Australia '86 goes much further and presents some unique features that will ensure that it will be the conference to remember.

A lavish opening ceremony during the registrants' cocktail party preview of the Orchids Australia '86 Conference Show on Thursday, September 16, 1986, will be followed by a dinner for all registrants. The cost of this function will be covered in the registration fees. This will be the ideal opportunity, in an informal atmosphere, to spend the evening renewing old acquaintances and forming new friendships.

One of our illustrious array of world-famous orchid authorities that have honoured us by agreeing to take part in our lectures programme will give their presentation as an after-dinner feature. Also a representative of the Japan Orchid Growers Association will be invited to tell us the latest news about the 11th World Orchid Conference to be held in Tokyo in 1987.

Friday, September 17, will be 'lecture day' and as few alternative attractions as possible will be scheduled for that day. With no simultaneous programme of lectures there will be the opportunity for all registrants to attend all lectures if desired. Venue will be the Oberoi Hotel, the conference headquarters.

All lectures will be of 30 minutes' duration with five-minute question period. Day lectures will be scheduled to finish at 4.30 pm for the dinner adjournment and there will be two lectures after dinner on Friday evening. The schedule should, hopefully, allow for a non-hurried, restful and very informative day.

Saturday, September 18 will be a very special day for orchid enthusiasts. Two topical open forum-type sessions will be staged. Saturday morning will be "ORCHID JUDGING WORLD WIDE" including addresses by a panel of world-famous judges and, of course, open discussion with the audience. In the cause of world uniformity of judging and the endless thirst for knowledge, this is a pro-

gramme not to be missed by any registrant.

The afternoon session will be "ORCHID CULTURE WORLD WIDE" when a further panel of world-famous orchid growers will present papers followed by open discussion and participation by the audience.

It is to be hoped that both of these features could be adopted by future conferences with special emphasis on the international judging session.

Such an ambitious conference programme as described, could not be possible without the wonderful response from some of the most knowledgeable and nicest "guys" and "gals" in the orchid world. I am very proud to be able to list the proposed speakers to this date, who have indicated that, apart from complications, will be attending ORCHIDS AUSTRALIA '86. Our list of speakers reads like a page from the orchids' "who's who":—

Ernest Hetherington of Fred A. Stewart Inc, San Gabriel, California, USA — "Cattleya Hybridising in the USA".

Dr Roy Wittwer, Eureka Orchids, Eureka, California, USA — "Culture of Orchids in the Odontoglossum Alliance".

Garry Gallup, Gallup and Stribling International, Carpinteria, California, USA — Subject to be arranged.

Andrew Easton, Geyserland Orchids, Rotarua, New Zealand — Orchid Judging World Wide forum member.

John Miller, Miller's Orchid and Flasking Service, Anaheim, California, USA — Orchid Judging World Wide forum member.

Michael Ooi, Ooi Leng Sun Orchids, Malaysia — "Phalaenopsis and Other Orchid Collecting in the Malaysian Region".

Harry Nagata, Nagata Engei Co Ltd, Japan — "Cattleyas in Japan".

Takehiko Mukoyama, Mukoyama Orchids Ltd, Japan — "Cymbidium Orchids in Japan".

Frank Shride, The Beall Company, Vashon Island, Washington, USA — "Growing and Hybridising Masdevallias and Other Miscellaneous Orchids".

Professor Rapee Sagarik, Bangkok, Thailand — "Vandaceous Orchids and Others of Thailand".

Ely V. Javier, Metro Manilla Orchid and Garden Club, Quezon City, Philippines — "Orchids of the Philippines".

Carol Rouse, Fred A. Stewart Inc, San Gabriel, California, USA — "Cymbidium Orchid Culture and Hybridisation" at Orchid Growing World Wide forum.

Freida Duckitt, Duckitt's Orchids, Darling, South Africa — "Cymbidiums".

Udai Pradhan, Kalimpong, India — "Collecting and Propagating Indian Orchids".

Les Nesbitt, Vale Park, South Australia — "Australian Terrestrial Orchids and Their Hybrids".

Keith S. Bennett, Lakemba, New South Wales, Australia — "Species Paphiopedilums".

Trevor Jacob, Allenby Gardens, South Australia — "A Review of Cymbidium Hybridising in Australia".

Ed Meeuwissen, Meeuwissen Orchideen, Holland — "Cymbidium Culture in Holland".

Proceedings of Orchids Australia '86 will be published in book form in colour and with such an array of orchid talent, that publication will be very jealously sought. Registrants will receive the proceedings book included in their registration fee.

I have described only one segment of the wonderful orchid spectacular that will be the 10th Australian Orchid Conference. It is certain that this conference will see the greatest influx of international orchid growers into Australia since the 6th World Orchid Conference in Sydney 1969. Add to this the opportunity to see some of the very newest intermediate and standard cymbidium hybrids in their home territory, plus the many other irresistible attractions in 1986 and I am certain that you will appreciate the necessity to get your name on the conference mailing list.

Send name and address to: Orchids Australia '86, GPO Box 730, Adelaide, South Australia 5001.

## JAPAN

### 12th WORLD CONFERENCE

Preliminary tour planning for 1987's great orchid event is now in progress in NSW. Details of itinerary and costs will take some time to work out since airlines and hotels are cautious about quoting definite prices this early. But get your name on Bill Smoothey's list for details and these will be supplied as they develop. This does not obligate you in any way. Phone Bill on (02) 46 2567, or write to 15 Merlin Street, Roseville, NSW 2069.

## ORCHIDS AUSTRALIA '86 FILMS

The conference committee can provide on loan to societies a fine, professionally-produced film on South Australia. It can be supplied in 16 mm, 8 mm, VHS or Beta video. The show runs eight minutes. Apply to Orchids Australia '86, GPO Box 730, Adelaide, South Australia 5001.

## NEW ZEALAND SECOND INTERNATIONAL CONFERENCE

Hardened orchid-conference goers still remembered the First New Zealand Orchid Conference with relish. That affair proved our trans-Tasman cousins had little to learn when it comes to efficient organisation. So there can be no doubt that this year's conference will be an enjoyable and interesting one.

Apart from such a stupendous orchidaceous reason for visiting New Zealand it's worth going for the scenery alone. Throw in the bonus of meeting friendly people everywhere you go, plus the advantage in exchange rates, and it all adds up being a good time to make that visit to New Zealand you've had in mind for years.

The OS of NSW is organising a party to go at concession rates. For details contact Mr W.R. (Bill) Smoothey, 15 Merlin Street, Roseville, NSW 2069. Phone (02) 46 2567.

## NEW AOC ASSOCIATES

The following societies have been welcomed as associate members of the Australian Orchid Council:—

Mt Coot-tha Day Orchid Society. Secretary: Mrs D. Haan, PO Box 32, Paddington, Queensland 4964. Meets first Tuesday, 10 am, Mt Coot-tha.

Gippsland OS. Secretary: H. Jacobs, PO Box 110, Stratford Gardens, Victoria 3862. Meets second Monday, Continuing Education Centre, Sale.

Albury-Wodonga OS. Details elsewhere in this issue.

Hervey Bay OS, Queensland.

Northern and Eastern Districts OS, South Australia. Secretary: J. Keen, 22 Campbell Street, Oaklands Park. Phone 296 4476. Meets third Thursday.

Congratulations associates. The AOC slide library is open to you. Contact the program librarian, Mr G. Haar, 39 Aubrey Grove, Boronia, Victoria 3155.



## BOOK REVIEWS

# The New Book for Orchid Lovers

The first *Book for Orchid Lovers* went to three printings and over 50,000 copies. It provided an excellent introduction to orchid growing, and the same of course, can be said for this new edition.

The new book has more colour and plenty of black-and-white illustrations. Drawings show points of culture or growing-house construction. Due no doubt to an effort to get as much into the book as possible some black-and-white illustrations are too small and lack tonal range. This is unfortunate in the illustrations showing the breaking up and repotting of a cymbidium where eleven illustrations have been crowded into one column. But this is a minor criticism which no doubt will be corrected in the next edition.

Eleven very-experienced growers each cover their specialities. They are introduced on the contents page, and again the illustrations are too small.

The information supplied by each contributor is first class. It starts with an excellent article on orchid basics by Sydney Monkhouse. Harry Lambert describes shadehouse culture and construction and Kel Staples provides sound advice on glasshouses. Ace-cymbidium grower, Harry Lambert, details this genus admirably. Mick Chenoweth does the same for cattleyas. There is a valuable section on cymbidium pollination, flasking and deflasking by Bob Nicolle.

Other genera covered are lycaste and odontoglossum alliance by Bernis Hansen; paphiopedilums by Syd Monkhouse; nobile-type dendrobiums by Mick Chenoweth and epiphytic natives by Bob Shorter. Culture of terrestrial natives is expertly described by Les Nesbitt who must be Australia's most-experienced grower of these fascinating orchids.

Deane Johnston has grown phalaenopsis since he was knee-high so what he has to say about this genus is pure gold. Deane also writes on vandas and ascocendas.

Hardcane dendrobiums are rewarding because they spread the flowering year. Their needs are described by Colin Jennings.

There is a useful chapter on pests and diseases and an important section on using orchids for decoration. Aspects of interesting species fill some corners.

The book is of 64 A4 pages on quality paper, plus a card cover. Priced at \$5.00 this is very good value. Societies can receive discounts for bulk orders. For single copies or bulk orders contact: The Orchid Club of South Australia, GPO Box 730, Adelaide, South Australia 5001.

## "ORCHIDS OF NIGERIA"

This is another of the specialised orchid floras on African orchids which are contributing to making that continent's orchids better known. True, most of the orchids shown in the mainly black-and-white illustrations can be classed as botanicals, but the species grower will welcome the chance to learn more of the background of those in cultivation.

To date there has been little literature on Nigerian orchids so this book fills a gap. The book has been written by Borge Segerback, a Swede with an obvious full command of the English language and botany. For convenience it is divided into epiphytes and terrestrials.

*Ansellia gigantea* is a species familiar to Australian growers, and there is a fine specimen of its variety *nilotica*, specimen size, shown (Figure 59) growing on a tree. There are about thirty epiphytic genera and some 200 species in Nigeria. Terrestrial genera number about twenty with 250 species. There are 22 of the ubiquitous genus *Bulbophyllum* in Nigeria and a dozen of them are illustrated in the book. Fourteen *Angraecum* with five pictured.

Fascinating oddities abound, such as the leafless *Microcoelia guyoniana* where leaves are replaced by rudimentary scales; and translucent flowered *Diaphanthe* species which dangle racemes of usually white flowers. A plant of horticultural merit is *Plectromenthus caudatus* with its upright spike of prominent flowers each with a large diamond-shaped labellum and green segments. Two showy and easily-cultivated forms of *Aerangis* are found in the country.

Have you heard of *Ancistrorhynchus capitatus*? As the name implies it has a dense head of small white flowers, tepals white with a yellow-green blotched lip. The book is

valuable for the checklist provided by C.T. Tang and P.J. Cribb. It covers such unfamiliar but intriguing genera as *Ancistrochilus*, *Chamaeangis*, *Tridactyle*, *Podangis* and many more.

Definitely a book for the species buff, and of course, valuable in any botanical library. It contains some useful data on cultivation. Technical botanical terms are kept to a minimum and in no way make descriptions hard to follow.

The book may be ordered from A.A. Balkema Publishers, PO Box 1675, 3000 BR, Rotterdam, Netherlands. Price is \$37.50 American including postage by surface mail.

## CULTIVATION OF AUSTRALIAN NATIVE ORCHIDS

A quart-sized book with a gallon of knowledge on native orchid culture. It is published by the Victorian group of ANOS. The cultural details were written from Melbourne-growing experience but basically they should apply in most parts of Australia where orchids are grown as a hobby. North Queensland could be a problem for some species but even there growers will find this book of value. There is a section on tropical orchids.

The book is in two parts: Epiphytes and terrestrials. Legal plant sources, potting mixtures, general culture, seedlings, pest control and other essentials are covered in both sections.

Melbourne growers have had long experience with growing terrestrial orchids so this section of the book is particularly valuable. A show of the Victorian Group always has a big range of well-known terrestrial natives.

A useful book, 64 pages and card cover. Illustrated with pen sketches. Obtainable from: Mr Don Smith, 6 Beacon Court, Lower Templestowe, Victoria 3107. Mr Smith is secretary of the ANOS Victorian Group. Price \$4.00 plus 60¢ postage.

## A YEAR OF ORCHIDS

Remember the review of this book in the December 1983 issue? *A Year of Orchids* is something quite unique in orchid publishing because it combines the inward vision of the famous creative artist Clifton Pugh with the accurate text and drawings of botanists. It is unique too in its concentration on one small area, the Yarra catchment.

The text is by Campbell and David Beard-

sell, qualified botanists. The botanical drawings are by Dailan Pugh, Adriane Strampp and David Beardsell. Each of the 27 Clifton Pugh prints is worthy of framing, while the rest of the contents would make a valuable book on their own merits. This work was published in a limited edition at \$75.00.

But — some copies were found to have a few minor errors. Nothing that anybody except an experienced botanist would notice. The publishers are offering these for \$20.00, plus \$5.00 for postage and handling. The address is Richard Griffith Publisher, PO Box 175, Nunawading 3131.

## PONDS AND POOLS

*Ponds, Pools, Falls and Foundations, and the Fish that Live in Them.* Rather a long name for a book but it's a smart little book. Written by Don Harper and published by W. Foulsham it is distributed in Australia by New Zealand and Australian Book Co.

It centres around the aesthetics, the mechanics and the refurbishing of these most picturesque of garden ornaments. There's a lot on water plants too.

Life other than fish abounds in a garden pond and the author takes a reader into this world of newts, frogs and insects. There is even a little about the fascination of using a microscope on a drop of pool water.

Pool building, rockeries, pumps, fish to have and fish to avoid, and fish breeding are all packed into a useful book. All the many illustrations are in colour.

Card cover with square spine and 96 pages. Good value and available at most booksellers.

## RINGWOOD'S GREAT EFFORT

Following their very fine Spring Orchid Show the Ringwood OS made a very substantial donation to the Kevin Heinze Cancer Appeal. Manager of the Cancer Institute Board, Mr G. Bolitho, acknowledging the donation said: "This further contribution to our funds is much appreciated as it will help us to continue our important research programmes ..." Mrs Jill Heinze added her personal thanks, saying "We know how much work goes into the raising of that amount of money". Congratulations Ringwood.

The first orchid introduced and flowered in England was *Bletia verecunda*. It was brought from the Bahamas in 1731.



# Society News

## Orchids at Griffith

RONALD KERR

Griffith is a very pleasant town in south-western NSW, rich with market farms, rice fields and orchards. A monument to the far-sighted irrigation policies of our grandfathers.

The soil is rich and only needs water to yield its abundance, and the water has to be brought by canals from distant mountains. Normal rainfall only averages 350 mm (14 inches) per year. Summers can be oppressively hot and lack of humidity can make orchid-growing a problem. Nevertheless there is a very active orchid society in the town.

Don Beattie is president, ably supported by his wife Verna and efficient secretary, Ruth Webster.

I was privileged to judge the 1984 Spring Show. It was an attractively laid-out show based mainly on cymbidiums. There were some nice specimen plants. In some classes the decisive factor in judging was one of plant presentation. But members are learning to overcome this factor fast as visits to some collections demonstrated.

Grand Champion was *Cymbidium* El Capitan 'Mem. Robert Chrisman' and Reserve C. Wyanga 'Elanora', both owned by Ron Lamar. Other prize-winners were Dennis Diehm, Bill Raphael, John Scott, Maurice Slingsby, Steve Pierpoint, Bert Schmidt and Robert Brown.

Excellent floral art attracted much attention. The artistic exhibitors being Pat Slingsby, Dianne Diehm, Ruth Webster and Verna Beattie.

Dennis Diehm grows the widest range of genera and his experience shows that most kinds of orchids can be grown in the area. Undoubtedly the best range of cymbidiums, of those I saw, is grown by Ron Lamari. Ron has a large number of top-ranking mericlones, and many fine flowering-size seedlings. He overcomes the humidity problem by having a growing house with fibreglass walls and sawdust 60 cm deep under the benches. Ron will be flowering top-quality cymbidiums in quantity from now on and other members are set to follow his example. So the future for cymbidiums in Griffith seems assured.

Maurie Slingsby and John Scott have nice collections. They grow with increased shade in summer and are trying out several genera. In one case summer shade is assured by a huge deciduous oak.

Bill and Binnie Raphael ran me out to their house a couple of kilometres from town. Almost apologetically they showed me an "old" *Cymbidium lowianum*.

It was the best *C. lowianum* I have ever seen. Huge with hundreds of flowers. If shown it might have won "Best Specimen Plant". Bill and Binnie were amazed when I told them that species plants were now very much in favour. In fact, that they were scarce and fetching good prices.

At a slide showing of orchid genera which grow under the same conditions as cymbidiums members showed keen interest in wanting to extend the range of genera they grow. They are keen to experiment. There is a great future for orchid growing in Griffith.

## All is Well at Wauchope

J. LESTER

Despite George Orwell's predictions, 1984 was a satisfying year for Hastings River Orchid Society! Our attendance record at the monthly meetings was high and the variety of genera benched was truly remarkable. They were happy meetings ending with tea and supper provided by the hard-working ladies, raffles, judging results and plenty of orchid talk.

We also hosted the Combined Autumn Show in May of '84 at the Colonial Arcade in Port Macquarie and were well supported by growers from our allied societies, namely Manning River, Port Macquarie and Great Lakes. The display was tastefully set up, ensuring each plant was shown at its best and visitors were able to enjoy the unusual and breathtaking spectacle of so many orchids in full bloom. As the display was in an open arcade, volunteer members put in long hours to ensure the safety of the plants and the success of the show.

Hastings River held its 18th Annual Spring Show at the CWA Hall in Wauchope on September 21 and 22 and enjoyed a higher attendance than in previous years. As usual,

visitors were amazed to learn that our own Australian natives could be so diverse. The Grand Champion Orchid of the Mid-North Coast was *Cymbidium* Highland Mist 'Dirrabbilla' owned by Doug Grant of Port Macquarie Orchids and well-deserved as it was beautifully grown and well presented. Champion Native was *Den. falcorostrum*, owned by F. & J. Lester, in its prime and gleaming.

We had our usual raffles but one with a slight difference — members Vern and Pat Little donated an "orchid tree" — this was a potted frangipani decorated with orchids, bromeliads, etc and proved very popular.

Earlier in the year our president, Harry Higgins, suggested a bus outing to the Wilson River Native Reserve over the October weekend to view orchids in their natural habitat. We assumed a few would be interested and began with a minibus — to our surprise the idea took on and we finished up having to charter the largest bus they could provide as we were joined by members from other societies.

At approved stops along the way we were able to see, growing high in the treetops, large clumps of *Dendrobium falcorostrum*, as well as staghorns, tree-ferns, *D. gracicaule*, etc. We also saw *D. kingianum* growing high on the rocks in what seemed like a very inhospitable place.

Members Ross Wheadon and wife Cheryl undertook catering arrangements and did a top-notch job providing morning tea, barbecue lunch and all the trimmings and afternoon tea to finish the day. Then on home, down the Oxley Highway, with the bus driver stopping at the Travellers' Rest Inn for anyone who wanted a quick drink — no worries about breathalysers — everyone voted this should become an annual event and we are working towards the 1985 outing.

We wound down the year with the Christmas meeting and smorgasbord — everyone bringing a plate and their plants, as usual — a quickie meeting to get the business out of the way and on with the supper and, of course, orchid talk again!

We are alive and doing well!

## MIDLAND ORCHID SOCIETY

Under president Gordon McEwen the Midland OS centred on Castlemaine, Victoria, enters its fourth year in a strong position.

The Third Annual Orchid Show held at the Castlemaine Library Hall last October was a

great success due to the high standard of entries. Chris and Gary Sobey saw their *Cymbidium* Sleeping Spring 'Perfection' carry off the Championship. Reserve was the red *Cymbidium* Sensation 'Dural', with Bob Collins the proud owner.

Visitors and intending members are welcome on any second Tuesday of the month at the RSL Hall, Mostyn Street, Castlemaine at 8 pm. Joyce McEwen is secretary. Address PO Box 264, Castlemaine 3450. Phone (054) 43 0459.

## SKITES' NIGHT AT BEROWRA

They're certainly innovators at Berowra Orchid Society! Soon after founding twenty and more years ago they became the first orchid society to make a feature of native orchids. Another project was to encourage whole family units as members. A champagne supper on spring show opening night was another popular idea. In November last members revelled in a Skites' Night.

Members brought along their awards medals, trophies, sashes, prize-cards, photos and other ego-boosting paraphernalia for display on benches. Outrivalled the orchids.

The displays stimulated memories and ensured wonderful discussions.

How's that for a new type of night at your society?

## THE TOWNSVILLE OS SPRING SHOW

The Townsville Orchid Society held another very successful Spring Show on October 5, 6 and 7, 1984.

This year the show venue was the Noel Gould Holden showroom on Charters Towers Road. The show was given very good media coverage on the television, radio and the Townsville Bulletin.

The Champion Orchid of the Show was *Phalaenopsis* Running Waters (*Phal.* Lind. Hunter x *Phal.* Spring Showers), owned by M. Keith Otto. The Reserve Champion was *Dendrobium* C.K.A.I., owned by Mick and Thelma Keith.

The Townsville Orchid Society has held a spring show every year since 1948. Until 1953, nowhere else in Queensland, including Brisbane, was such a show contemplated or organised.

Thus the Townsville Orchid Society were the pioneers of spring shows in Queensland.



# ★ ★ ★ ★ ★ ORCHID PEOPLE ★ ★ ★ ★ ★

Another "lifer" of the very best kind. Mr **Jack Jannese**, highly-esteemed vice-president and inaugural member of the Orchid SPECIES (NSW) has been made the society's first life member in recognition of his services to species orchids stretching back to the late fifties, a time when most growers thought cymbidium hybrids were the only orchids. Thirsty for correct information on the orchids he was growing he wrote to collectors and taxonomists overseas. In the process he made friends of the late, renowned Guido Pabst and Fritz Dungs. In 1968 he instigated moves to form an orchid species society in Sydney but the death of two of his keenest supporters caused the venture to lapse. The spadework that he has done and the expounding of species orchids over all these years has given Orchid SPECIES (NSW) the strong foundations that have led to its success. His enthusiasm is infectious and he has worked very hard to educate orchid lovers in the mysteries of orchid species.

★ ★ ★

Does **Jim Raddatz** ever have a moment for himself? Jim and his ever-smiling wife Betty run the Humpybong Nursery at Woody Point, one would think as a mere sideline to all the work they have done and are doing for numerous orchid societies in southern Queensland. Jim has been a QOS committeeman as well as the show organiser. He and his wife played a big part in the formation of the Redcliffe District Orchid Society, and later Jim became president. Jim and Betty have both been made life members of this society. Then in 1980 Jim put his energy behind the formation of the Pine Rivers Orchid Society. He is patron of both Caboolture and Pine Rivers Societies.

Jim has long been a judge, with all the work it entails. In 1984 he chaired the committee which staged the inaugural Winter Charity Orchid Spectacular at Aspley, Brisbane. As a result of this very successful show representatives of the nine orchid societies involved decided to form the North Moreton Queensland Orchid Council. Jim, of course, was a natural for first president.

Jim and Betty are friendly people to know. Queensland societies are richer by their willingness to accept any responsibility and to offer help where needed.

## KEV McFARLANE'S TRIUMPH

Mr Kevin McFarlane achieved wide recognition for his achievements in orchid hybridising when he was selected as one of the six finalists in the rural section of the BHP Awards for the Pursuit of Excellence.

These prestigious awards were inaugurated this year by the Big Australian Company. BHP invited nominations in six classes of community service of Australians who deserved recognition for their work. The winner in each class to receive a trophy and \$40,000.

Kevin was nominated in the rural section for his work on orchid hybridising. Six finalists in each section were invited to Melbourne for a presentation dinner whereat the proceedings were televised Australia-wide.

All orchid growers will welcome this recognition of orchid hybridising and the man who is established as pre-eminent in this field. Congratulations Kevin.

## A WAY WITH CATTS

Mrs Jean Medcalf is renowned for the way she grows her cattleyas. She is one of the few people to have gained a First Class Certificate — the very highest award. This was for a superb flowering of *Cattleya* Sylvia Fry "Wallacia" a few years ago.

Jean is a member of Parramatta OS and has been a hard and consistent worker for the society for around a quarter century. Last year the society awarded her honorary membership.

## TASSIE REST FOR SID

Noted native grower Sid Batchelor stepped down last October after two tough but rewarding years as president of Cumberland OS. During his term membership increased and very successful shows were held at Castle Towers shopping centre.

During January Sid was off to Tasmania, not to recuperate but to see some of the local collections. The good folk at OS of North-west Tassie made him stand and deliver as guest speaker at a special January meeting.

## GLADSTONE GROWER

Bryan Jones' name appears consistently among the monthly winners at Gladstone OS meetings. At the last spring show he won Grand Championship and a Cultural Award. He is strong on the cattleya and vandaceous

alliances. Bryan also had a stake in the very successful Gladstone display at the Australian Orchid Conference in Melbourne. Bryan was impressed by the high standard of the conference show and the great range of cool-growing genera.

## IT'S THE SAME THE WORLD OVER

Eric Schmidt last year paid a visit to Germany. It is some seventy-two years since he was last there. Eric is a member of the Gladstone OS. Tripping around Germany by car Eric was surprised by the number of orchids he saw growing and for sale in department stores and florists. The genera were similar to those we grow in Australia.

We're sure Eric enjoyed the trip, but isn't it nice to get back home!

## TQOC REGISTRAR RETIRES

Ron Merritt has been an active executive of the Tropical Queensland Orchid Council since its inception almost twenty years ago. For a brief period he was assistant-registrar before taking over as registrar.

Ron has been responsible for the training of judges. This has been thorough, evidenced by the fact that TQOC judging panel has always enjoyed a high reputation.

Firm support for the TQOC has been Ron's creed and he has played a big part in its success. He has a wonderful collection of orchids, really as much his wife's as his own for Mrs Merritt is as devoted to them too.

We can be sure that retirement as registrar will not mean less involvement with orchids, only a little more freedom to look at them in other enjoyable ways.

## NEW TQOC REGISTRAR

Doug Benson is the new registrar for the Tropical Queensland Orchid Council. Doug has been editor of the TQOC news-sheet *Phaius* and has gained a high reputation for his handling of the publication. He has handed over this job and also left the Townsville OS committee in order to devote all his time to the new task.

Doug is very knowledgeable on natives and species, and has been a judge for many years. Just the man to maintain the high standard established by Ron Merritt.

## MR MAK CHIN ON

Last issue in the review of *Orchid Biology III* on page 268 mention was made of the book being dedicated to Mr Mak Chin On of Singapore. Incidentally the surname is always

placed first by Chinese families. Well, someone happened to mention, "Who is Mr Mak that he should have a book dedicated to him?"

He is one of the most prominent orchid growers in Singapore. He is noted for van-daceous breeding. *Moraka* Mak Chin On is named for him. It is a cross of *Aranda* Christine and *Ascocenda* Blue Boy.

Mr Mak Chin On is noted for the hospitality he has extended to visiting orchidists. He has an extensive knowledge of Singapore and its orchid growers and is always ready to assist visitors.

Mention of *Orchid Biology III* brings to mind a point that was overlooked in the review, namely the high quality of the paper and bookbinding. The book will last for centuries, by which time your heirs can cash in at a goodly profit.

The book can be obtained from Twin Oaks Books, 4343 Causeway Drive, Lowell Michigan, USA for \$49.50 American.

Professor Joseph Arditti of the University of California, Irvine, is well known in Australia for his work on orchids, and for talks he has given in Australia. Fifteen months ago his friends were able to congratulate him upon his marriage to charming Mastura of Malaysia. Now further congratulations are in order and extended by his Australian friends, for Joe and Mastura were blessed with a son, Jonathan Omar, on November 20 last. The timing was a little late for the December issue, so Jonathan Omar Arditti is now five months old. Your Aussie friends Joe wish you, Mastura and Jonathan, every happiness.

"Orchids have long been associated with magic and superstition, usually in connection with their supposed aphrodisiac effects on humans and animals." L. Lawler in *Orchid Biology III*.

"Orchid seeds are mostly minute structures produced by the thousands or even millions per seed pod, depending on the genus. Each seed weighs between 0.3 to 0.6 microgrammes and all are totally devoid of storage or nutrient tissue. For the orchid seed in nature, finding a fertile substrate with the appropriate fungus is purely fortuitous. With this one-in-a-thousand odds, the otherwise seemingly-wasteful production of millions of seeds is in fact essential to the survival of the orchid." Dr Teoh Eng Soon in *Asian Orchids*





### HISTORIC PHOTO

*This photo of seven past presidents and the then current president of the Orchid Society of NSW was taken during commemoration of the society's Golden Anniversary. From left they are Messrs Sid Waldie (1978-80), Bert Schwartz (1969-71), Lou Sasso (1963-65 and 1975-77), Allen Begg (1948-50), Frank Slattery (1960-62 and 1966-68), A.B. Porter (1954-56), Jack Bisset (1951-53) and Wal Upton (1981-83). Absent with leave: Barry Collins. Other presidents, now deceased, have been Judge H.F. Markell (1934-42), Messrs E.A. Hamilton (1943-45), W. Rothwell (1946), Dr J.A. Vote (1947) and Sir John Hall Best (1957-59). Photo by Barry Long.*

### "BANDICOOTERS BACK"

With the appearance of cymbidium flower spikes, most members will be suffering from "Bandicooters Back" which will be proportionate in intensity to the number of plants in their collection and the height of their benches. This disease is usually identified by the patient having a decided bend in the lower part of the spine which section of the anatomy takes some time to straighten. The affected area is decidedly painful and the patient generally also shows symptoms of bloodshot eyes (caused by penetration of sharply-pointed cymbidium leaves) and protruding eyeballs (caused by trying to see flower spikes that are not there) and generally flushed faces caused by keeping the level of the head below the buttocks for too long a period.

The cure — grow cattleyas!

Illawarra OS Newsletter

### ALBURY-WODONGA LEAPING AHEAD

In only a little over a year since formation the Albury-Wodonga and District Orchid Club has grown to over sixty active members. Some members come from 80 km to attend meetings. The club now meets at the Wodonga Civic Centre on the first Tuesday of each month except January.

Secretary Geoff Milton reports that the club greatly appreciates the many visitors who have dropped in at meetings. Sydney and Melbourne growers passing through will be very welcome. Wal and Jill Upton called in last year and Wal gave a wonderful session on culture for which members were deeply grateful. Geoff can be contacted at 665 Jones Street, Albury 2640 or by phone (060) 21 4770.

A mini orchid show is to be held on August 24 in conjunction with the Wodonga Garden Club Daffodil Show. A spring show will be held in late September.

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 Slc. Wendy's Valentine 'June'  
 Blc. Eve Marie Barnett 'Magnificent Watermelon Gold' — 3 plants  
 Blc. Mary M. Damon 'June Sugihara', AM/AOS C. walkera alba 'Pendentive', SM/JOGA  
 Slc. Pumpkin Festival 'Fong Yuen', AM/OSROC Pot. Mount Pelee 'Enchantress', AM/AOS  
 Lc. Lisa Ann 'Magnificent Maroon', AM/AOS Lc. Cuiseag 'Manka-En', PC/JOS

#### GREAT CATTLEYA SEEDLINGS — 10-15 plants

- Blc. Oconee 'Mendenhall' x Pot. Faye Janetta 'Fire Dancer'  
 Slc. Orient Amber 'Florida' x Blc. Waikiki Sunset No. 6  
 (Lc. Flirtie x Lc. Hina Sunset) x Slc. Rajah's Ruby  
 C. Bob Betts 'Tacoma' x L. anceps 'Veitchiana' — hardy  
 (Lc. Lisa Ann x Slc. Naomi Kerns) x Slc. Madge Fordyce — hardy  
 C. Interglossa 'Splash' x Epi. tampense — hardy Sl. Jinn x Laelia anceps 'Guerrero' — hardy  
 C. Forbesii x C. Brabantiae — hardy C. Myrtie x Laelia rupestris  
 Blc. Living Gift 'Summer Orange' x Slc. Orlades Early Harvest  
 C. Landate 'Spotglen' x Slc. Hazel Boyd 'Apricot Glow'  
 Blc. Malworth 'Orchidglade' x Blc. Crispin Rosales No. 2  
 C. Michiko Nakagawa 'Fuji Snow' x C. Tiffin Bells 'Orchidglade'  
 Laelia pumila 'Kamayama' x Laelia sincorana  
 Blc. Hawaiian Holiday x Blc. Malworth 'Orchidglade'

#### SOFTCANE DENDROBIUM SEEDLINGS — 12-15 plants

- D. Yuzuki 'Royal' x Satellite 'Picuta' D. Yuzuki 'Royal' x Christmas Chimes 'Asuka'  
 D. Oriental Paradise No. 18 x Hoshimuse 'Haming'  
 D. (Yukidaruma x Sir F. Moore) x Shinonome No. 7  
 D. (Yukidaruma x Sir F. Moore) x Utopia 'Giant' D. Satellite 'Picuta' x Golden Blossom 'Sunset'  
 D. White Pony 'Akamatsu' x Yukidaruma 'King' D. Akatuki 'Queen' x Utopia 'Giant'

#### DENDROBIUM SEEDLINGS — 12-15 plants

- D. canaliculatum x tangerinum D. aggregatum 'Majus' x self D. pierardii x crepidatum  
 D. Star Interlude x Margaret Fell D. Oscar x Hickam Deb 'Wallcrest'  
 D. (Narromine x Mem. Esther Feurriagel) x Hickam Deb 'Wallcrest'

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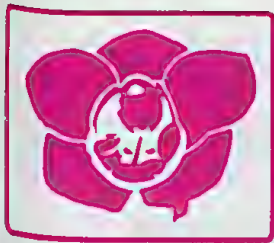
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V. Eisenhower x Ascda. Seechang — yellow-spotted red .....	B C
Ascda. Phairot 'Yellow' x Ram Indra — yellow.....	B C
Ascda. Baucis (V. Jos. van Brero x Ascda. Honour First) .....	B C

## DENDROBIUM:

D. carroni x johannis — miniature chocolate blooms (blooming size) .....	A B
D. Gloucester Sands (canaliculatum x johannis) — blooming size .....	B
D. affine SM/10 WOC x Doreen — long, white and bi-colour sprays .....	B C
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D. Debbie Macfarlane x tetragonum — multi-colour antelopes .....	A B
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## RENANTHERA (MINIATURE):

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V. Aurawan x Pong Thong — mustard yellows.....	B C
V. Filipino x Bhimayotin — exhibition pink/red .....	B C
V. Emma van Deventer x Rose Davis — blue semi-terete.....	B C
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Tall, spiking intermediates of excellent colour, shape and substance expected.

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Outstanding cross for superior award standard red intermediates.

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**84.42 Dave's Dream 'Sunburst' x Winter Fire 'Rocky'**

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*Many thanks to all those who enquired about our prize-winning orchids listed in December '84 AOR. Of course those that win one year cannot always be immediately available. Seedlings flowering for the first time must be evaluated before production is undertaken. We won't fall into the trap of mericloneing a plant because it won 1st Prize at the Woollywagga Spring Show! Then again others were already proven award-winners in international circles and these will be, or already are, in production. If you are not on our mailing list you are missing out on some of the newest and best cymbidiums being released anywhere. Our Autumn '84 Catalogue is out now. When you are looking for quality — we have it. Write today.*

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This listing will carry a range of potted orchids and hobbiest compots. Any grower of the warmer types cannot afford to be without our lists. Please send a 9" x 4" SAE (for listing).

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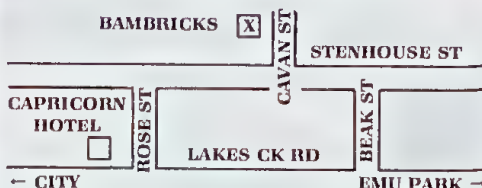


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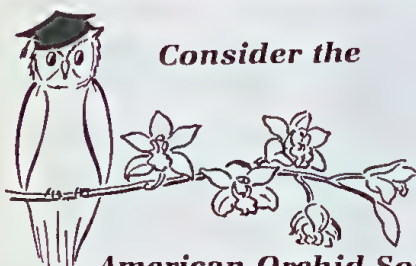
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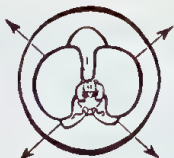
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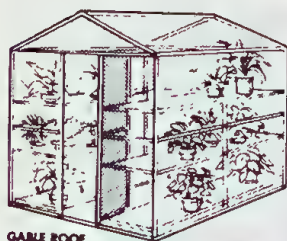
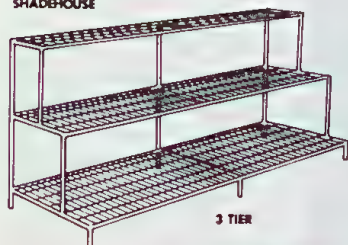


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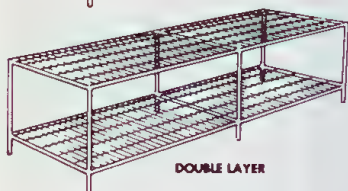
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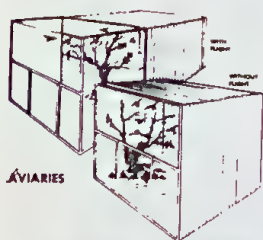


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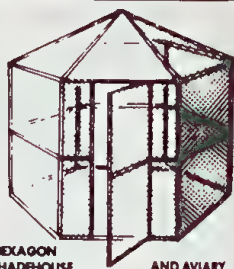
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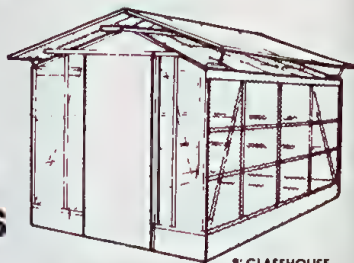
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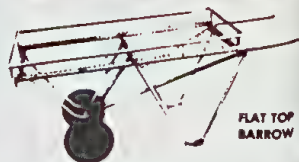
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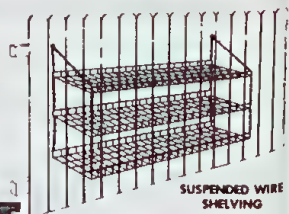
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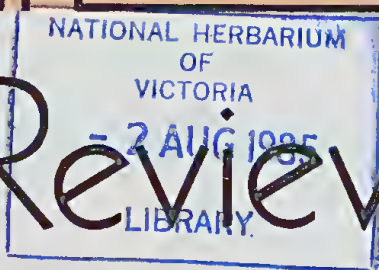
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Advertising and Subscriptions to Publication Manager:  
Elizabeth Lowe, 14 McGill Street, Lewisham, NSW 2049.  
Phone: (02) 560 6166.

SUBSCRIPTIONS: 1985/1986 within Australia \$33.00. 1985 \$18.00. Overseas surface 1985/1986 \$37.00. 1985 \$20.00. Airmail. NZ 1985/1986 \$42.00, 1985 \$24.00. All other. 1985/1986 \$56.00, 1985 \$31.00.

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Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA 27936

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PRINTCRAFT PRESS PTY LTD  
14 McGill Street, Lewisham 2049. 560 6166

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# AUSTRALIAN ORCHID REVIEW

VOLUME 50 — No. 2

WINTER 1985

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## COVER STORY

*Caladenia nana* is a colourful species from West Australia where it is found growing in clumps after bushfires. It has not yet been successfully grown in cultivation but many other *Caladenia* species have been. Turn to the fascinating article on these Australians by Mr R.J. Bates of South Australia. Mr Bates is one of our leading authorities on Australian terrestrial orchids. Flowers in the cover illustration are enlarged slightly more than twice. This and other illustrations are from photos by Mr Bates. Cover photo *Caladenia nana* Endl.

To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in *italics*. In society bulletins and on place-cards *italics* can be indicated by underlining.



# COLOURFUL CALADENIAS . . . . .

R.J. BATES

*Caladenia* is a large genus of at least 80 species ranging from New Zealand (two species) through Australia (80 species) to South East Asia (one species) with the greatest concentration of forms in the south-west corner of Western Australia, where there are a number of bizarre species principally pollinated by sexually-attracted male wasps (Stoutamire 1974). In this article however I will deal only with those brightly-coloured species which attract nectar-seeking insects. These species, which belong mainly to the section (Eu) *Caladenia*, are fairly equally distributed throughout temperate Australia and number over twenty forms.

The genus was described by Robert Brown in 1810 and his name *Caladenia* comes from the Greek *Kalos* meaning beautiful and *denia* a gland, referring to the glands on the labellum which serve to position and in some cases attract the insect pollinators.

*Caladenia* are terrestrials ranging in height from 4 cm (*C. pusilla*) to 80 cm (*C. patersonii*). Plants arise annually from small tubers sheathed in densely-matted fibres, which sprout after the autumn rains and flower in late winter, spring or early summer. A single hairy leaf is produced and although most species have one flower some produce a short spike with up to ten blooms (*C. cucullata*). Some *Caladenia* have long filamentous sepals giving them a spidery appearance (*C. filamentosa*, *C. patersonii*) and are commonly known as *spider orchids* but these belong to the section *Calonema* and I will not deal with them here. Most of the colourful species have short rounded segments and resemble more conventional non-orchid flowers.

Vernacular names given include *blue fairies*, *pink fingers*, *white rabbits* or *yellow cowslips* and these names reflect the great variation in colour exhibited by *Caladenia*.

**Pollination:** Brightly-coloured caladenias are pollinated by a range of nectar-seeking

insects, principally native bees, although some species are favoured by wasps (*C. cucullata*), and beetles, flies and ants visit the flowers transferring pollinia with a lesser degree of success.

The insects are attracted by the bright colours, rounded 'lily-like' petals and in many cases by sweet perfumes (*C. gracilis* has a powerful musky fragrance, *C. deformis* a vague "floral" scent and various forms of *C. catenata* a honey-like odour). Most of the plants of this group have flowers which face upward, the petals and sepals being quite reflective of both visible light and (one would suspect) ultra-violet, thus making them stand out from the low shrubs and grasses with which they grow. Plants favour open situations and commonly grow in clumps (*C. deformis*) or large crowded colonies (*C. flava*) to ensure that they can be seen from a distance by the small rapid-flying native bees. All this gaudiness and colour would appear however to be *false advertising* as *Caladenia* flowers rarely provide nectar or other food rewards. They could be considered as floral mimics of the small colourful bush flowers with which they grow, the *Caladenia* flowers being similar to native lilies, *Drosera*, etc but larger and more colourful; however, any mimicry is both general and vague. In some species the labellum calli are yellow-topped and look like stamens bearing pollen (ie *C. caerulea*, *C. latifolia*) and these could represent pseudo-pollen in much the same way as the *yellow column appendages* of the equally-colourful Australian orchids *Thelymitra* (Bates 1984, 1985).

Mathews (1976) suggests that blue flowers are particularly attractive to bees and the blue-flowered *C. deformis* was the first of the group to be recorded as bee-pollinated (Rogers 1931). He noted that the bee *Halictus subinclinans* used the pubescent calli on the labellum as a foothold to help it push far enough into the flower to collect the pollinia. This and other bee species can



commonly be observed on *C. deformis* during warm sunny days in late winter.

Rica Erickson (1965) described the pollination of *Caladenia flava* — "The brilliant yellow flowers with their red markings are as luminous as sunlight and the dark bodies of the bees are conspicuous on flowers many yards away". She observed that two sizes of bee visited the flowers but that only the larger ones were able to force their way over the calli on the labellum and into the tube formed by the positioning of the labellum against the column. She suggested that they fed on nectar at the base of the labellum but I have seen no evidence of nectar in this species. Rica Erickson noted that the larger bees were in fact *females* of *Paracolletes nicholsonii*, the smaller bees were males. An interesting reversal of the norm as in wasp-pollinated *Caladenia* only *males* pollinate the flowers!

Red flowers are generally accepted as being bird-pollinated (Matthews 1976) but this is certainly not the case with the shiny crimson flowers of *C. congesta* and *C. catenata*. It is likely that bees visiting these species observe only the reflected ultra-violet light and see them as 'bees violet' (Macior 1971). Pollination of *C. congesta* by bees (*Hylapus* sp.) has been documented (Bates 1982). The labellum calli of *C. congesta* are dark and close together, curved and resembling the black body of the bee. All bees captured on *C. congesta* have been males. It is unlikely that sexual attraction is involved but from the frenetic bursts of activity exhibited by bees on *C. congesta* and wasps on *C. cucullata* (Bates 1978) it would appear that attractions other than food were being advertised!

Many *Caladenia* flowers have guidelines which help to position the insects — the red streaks on *Caladenia flava*, the stripes on the labellum of *C. catenata*, the paler centre of many *C. gemmata*.

*Caladenia* flowers have no viscid disc attached to their pollinia, so that the tube formed between the labellum base with its upturned margins and the decurved column with its downturned wings is an important structure. The bees must push into this tube to seek for food and when they leave, the

pressure exerted presses their meso-thorax firstly against the sticky stigma where some 'glue' rubs off. It is as they withdraw further that this glue contacts the pollinia and pulls them away. As bees do not normally visit the same flower twice outcrossing is ensured. Some species however go in for self-pollination ie some forms of *C. catenata* var. *minor* and *C. latifolia*. The flowers of these forms are smaller and less colourful than is normal for their species and open briefly if at all.

**Hybrids:** Heberle (1982) lists most of the Western Australian *Caladenia* hybrids. The yellow-flowered *C. flava* commonly crosses with the pink-flowered species — its hybrids with *C. nana*, *C. latifolia* and *C. marginata* have streaky flowers but those of *C. flava* x *C. reptans* are a most attractive apricot colour. One *C. flava* hybrid (*C. flava* x *C. patersonii*) has been named as *Caladenia* x *triangularis*. Although it is clearly a hybrid it is often not listed as such. *C. flava* probably forms so many hybrids because of its non-specialised pollination strategy. On one occasion I observed a beetle with pollinia leave a flower of the blue *C. gemmata* and fly directly to a flower of *C. flava*!

In the eastern States *caladenias* do not hybridise so frequently but colourful hybrids reported (Bates 1982, 1983) include *C. latifolia* x *C. patersonii*, *C. catenata* x *C. deformis*, *C. catenata* x *C. alba* and *C. caerulea* x *C. deformis*. These are all rarely encountered. A bizarre hybrid observed in western Victoria was *C. catenata* x *C. filamentosa*.

Perhaps of more interest is the number of *intergeneric hybrids* recorded with colourful *caladenias* as parents. One of these — *Caladenia deformis* x *Glossodia major* was named by Rogers as *Caladenia tutelata* a name I presume to be illegitimate for such a hybrid. Although the parents are commonly found together the hybrid is extremely rare and despite being recorded from NSW, Victoria, Tasmania and South Australia. I have seen no recent collections. Rupp (1932) records a hybrid *C. caerulea* x *Glossodia minor*.

In 1984 in Western Australia the hybrid *C. sericea* x *Elythranthera brunonis* was



# Colourful



1. *Caladenia flava* R. Br.

The yellow cowslip orchid of south-western Australia is a common and widespread species which forms hybrids with many other *Caladenias*.



2. *Caladenia gemmata* Lindley

The sapphire orchid is another species from south-western Australia. Colour can vary, forma *lutea* has yellow flowers, or there can be blue or white flowers.



5. *Caladenia latifolia* R. Br. x *Caladenia* sp.

A natural hybrid with one parent an unnamed species. Only two plants of this rare hybrid have ever been located. This one was found at Cape Leeuwin.



6. *Caladenia rigida* R. Rogers

An endangered species from the Adelaide Hills. A native bee is pollinating the flower.

# Caladenias



3. *Caladenia congesta* R. Br.

Found in the four south-eastern States and ACT. It grows around sandy swamp margins. Their tall stems lift the brilliant flowers above the heathy shrubs which protect the plants.



4. *Caladenia alba* R. Br.

A common and well-known species from Australia's east coast. It does well in pot cultivation.



7. *Caladenia catenata* (Smith) Druce

This form from the Adelaide Hills is easy to cultivate. Up to four bird-like flowers are produced per plant.

All photos  
by  
R.J. Bates.

More photos  
next page.





8 *Caladenia flava* R. Br.

In Western Australia they form large colonies like this in open woodland, looking like thousands of yellow butterflies.



9 *Caladenia saccharata* H.G. Reichb.

A widespread species from Western Australia. This shows how plants grow around inland granite outcrops.

collected on several occasions.

The author saw one of these near Margaret River which had been located by Mr G. Bussell and quite an attractive hybrid.

**Cultivation:** For obvious reasons these brightly-coloured *Caladenia* are popular in cultivation. Unfortunately for most growers they appear very difficult. *Caladenia latifolia* and *C. reptans* are exceptions; unlike most of the others these reproduce vegetatively at a fairly fast rate and are easy to keep going. *C. flava* ought not to be too difficult as it, too, reproduces vegetatively but I believe it has not often been tried as tubers are difficult to obtain. The author has attempted to cross the easy-to-grow *C. latifolia* with other species but success has been limited until recently. When growing *C. latifolia* it is important to choose a clone

which flowers well as most eastern clones are shy flowerers, the blooms being short-lived.

Many growers are now having success with *C. catenata* and *C. alba* by using a freely-draining mix, sowing seed around parent plants each year about April and covering this seed with a fine layer of leaf litter. Cultivation of *Caladenia* in bush soil was discussed by the author previously (1980) but this is a difficult area as bush soils naturally vary greatly from place to place and a grower will have more control over an artificial mix. Whatever the mix used the orchids must be allowed to go dormant in November by stopping watering and must be provided with plenty of sunshine and air movement. Squat pats should be used (either clay or plastic) as the orchids are shallow-rooted.

Some species such as *C. congesta*, *C. gracilis* and *C. cucullata* have been tried many times but I do not know of anyone who has succeeded in the long term. Although many have successfully raised seedlings the mature plants do not last, being very susceptible to tuber rot. I think it will be a long time yet before we see a wide variety of these colourful *Caladenias* available from the tuber banks of the native orchid societies in each State.

**Selected species:** *Caladenia flava* (Photo 1). This is one of the most abundant of the Western Australian orchids, and the large yellow flowers are invariably spotted, blotched or striped with red. In some areas as many as 100 plants can be found per square metre and under good conditions these flower freely to form a yellow carpet. From deep shade of the Karri forest to rock outcrops inland, *C. flava* can be found in flower any time from August to late October. It is a real beauty and a must for cultivation.

*Caladenia gemmata* (Photo 2). The glossy flowers of this gem (also from Western Australia) come in several colours: deep blue, yellow, clear white or pale blue. In nature it can be observed

that flowering is greatly improved the season following a bushfire. I have had this species in cultivation for several years and each year the same number of bristle-haired leaves appears but no flowers are produced. Perhaps a simulated bushfire or the addition of phosphate will instigate flowering.

*Caladenia congesta* (Photo 3). These gorgeous pink or crimson-flowered plants are restricted to damp sites in open forest or heathland from NSW to Tasmania and South Australia, but are never common. In cultivation the flowers are not brilliant as in the bush, but turn a pale pink. Although I have raised seedlings to flower in three years I have now lost all plants to tuber rot, possibly due to over-watering in an attempt to simulate their natural swampy habitat. (In cultivation many swamp orchids actually do better in a fairly dry mix!).

*Caladenia alba* (Photo 4). The pristine white blooms of this eastern-States species really are most attractive as they wave about on slender stems. Mine are doing well in a natural bush soil and flower freely each winter. The white-flowered form of the closely-related *C. catenata* is even easier to grow (see photo 7), producing more flowers per stem and slowly increasing by vegetative methods.

*Caladenia nana* (Photo front cover). This is one of several pink-flowered Western Australian species. There appear to be two forms — one living up to its name in being very diminutive, but the other a tall, large-flowered plant. Both forms however rarely flower unless their forest habitat is burnt, in which case practically every plant blooms and little clumps are formed making for a very attractive show. I have never seen it in cultivation but, like *C. gemmata*, it would probably not flower without some stimulation as yet unknown.

*Caladenia latifolia* hybrids (Photo 5). These hybrids are generally more free flowering than *C. latifolia* and have the advantage of increasing vegetatively. This would make them excellent contenders for pot cultivation! The hybrid in the photograph was found by Mrs G. Bussell near Augusta on the most south-westerly point of the continent. The other parent is an undescribed species (S. Hopper pers. comm.).

Other species not mentioned which seem to do well in cultivation include *C. praecox*, *C. lyallii* and *C. saccharata*. The genus *Caladenia* is a truly fascinating one and I have dealt here with just one small section of it.

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Photosynthesis is the process by which plant cells use energy from light to synthesise compounds. Respiration releases energy by a controlled breakdown of carbohydrates, fats and proteins.

Robert Dressler in his book *The Orchids* suggests that *Platystele jungermannioides* is probably the smallest orchid in the world. It is about half the size of the Australian contender *Bulbophyllum globuliforme*.

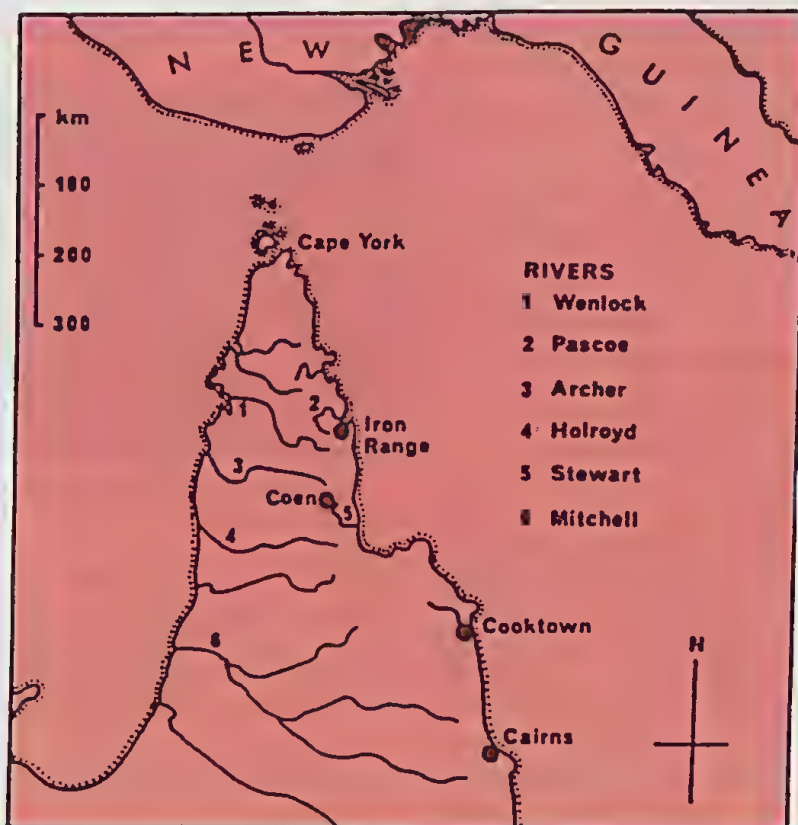
Estimates of the size of the orchid family vary quite widely . . . numbers vary from fairly-accurate accounts in some genera to very rough guesses, adding up to 725 genera and 19,192 species. Considering the many uncertainties a figure between 20,000 and 25,000 seems reasonable. Dressler in *The Orchids*.

When new growths appear watch the watering of harcane dendrobiums. Continue to restrict it until the growths are about 5 cm high. Watering too soon can often cause the new growths to damp off.  
 Wal Murphy in *Gold Coast OS Bulletin*.



# The Roadhouse ON T

AOR is grateful to the Director of the Royal Botanic Gardens and the Trustees of the Bentham-Moxam Trust for permission to reprint this article from the *Kew Magazine*. Thanks also to Dr Phillip Cribb for the excellence of his work and for arranging permission. The *Kew Magazine* incorporates *Curtis's Botanical Magazine* which has been in continuous publication since 1787 and is famous for its colour portraits of newly-discovered and unique plants. Each full-page plant portrait is accompanied by detailed botanical and cultural notes. Many line drawings illuminate the text. Volume I, parts 1-4 was published in 1984 and is still available. Subscriptions to Volume I and Volume II is £37.50 each. Cheques should be payable to Marston Book Services, 108 Cowley Road, Oxford, England.



*Map of the Cape York Peninsula, Northern Australia.*

The finger of Cape York points north to tickle the underbelly of the island of New Guinea. From Cairns in the south-west corner to Somerset at the tip, the distance is over 800 km as the crow flies and from Cairns to the Gulf of Carpentaria 500 km. The peninsula lies entirely within the tropics, its western side being flanked by the Coral Sea and the formidable length of the Great Barrier Reef. The major geological formation of the cape is the Great Dividing Range of low mountains which runs close to the east coast and slowly tapers out some 100 km from the tip of the peninsula.

However, it has a major influence on both the climate and the vegetation of the region. To its east, the warm winds blowing off the

# Archer River

PHILLIP CRIBB

Coral Sea bring in rain throughout the year. On the coastal strip and on the adjacent mountains, these support tropical forests often called vine thickets in Australia because of the presence of the Lawyer Vine (*Calamus australis*).

On the western side of the range, the climate and vegetation change dramatically. The climate is distinctly seasonal. The rains last for about five months from November until March when much of the interior becomes impenetrable. This is followed by a long dry season when all but a few of the longer rivers dry up, the land dries up and the dust chokes the traveller from dawn to dusk. The vegetation here presents a mosaic of open gum tree, *Eucalyptus*, woodland dotted with black boys, *Xanthorrhoea*, the termite mounds of assorted shapes and sizes and tea tree, *Melaleuca*, swamps.

In the dry season, fires sweep through these woodlands and the landscape of blackened trunks and bare cindery soils stretching for miles often resembles a battlescape from the Somme or Vietnam. Then, the only relief from the dust and heat are provided by the swift clear waters of one of the few permanent rivers of the cape, such as the Wenlock or the Archer. Their cool waters flow westward from the Great Dividing Range across the breadth of the peninsula to the Gulf of Carpentaria. Their banks near the fords are favourite camping spots for the 'adventurous souls' pilgrimaging to the tip. Giant paper barks, *Melaleuca*, fringe their banks, the haunt of cockatoos, parakeets, and the magnificent Rifle Bird, Australia's own bird of paradise.

The first botanist to visit Cape York was Joseph Banks who accompanied Captain James Cook on the Endeavour in 1770. The Endeavour was holed on a reef off Cape Tribulation and put in for repairs on the Endeavour River near present-day Cooktown. While the ship was being repaired, Banks and his assistant, Daniel Solander, made forays into the nearby country to collect plants. Thus, Cape York was one of the first places in the continent to be visited by a botanist. Unfortunately, it has fared less well subsequently. The most thorough survey, made by Leonard Brass in 1948 and published 1953, remains the standard account of the vegetation for the area.

A full account of the botanical exploration of the cape until 1948 is also included by Brass. This emphasises just how neglected the area has been despite its diverse flora which is of particular interest to botanists and phytogeographers as the cape is the meeting place of the very different floras of Australia and New Guinea.

This admixture is apparent in the orchids and has been the particular study of Dr P.S. (Bill) Lavarack, a scientist working for the Queensland National Parks and Wildlife Service and based at Townsville. Since 1974, he has led several expeditions, sponsored by the Australian Orchid Foundation, to the cape (Lavarack 1980, 1982) to elucidate the relationships of Australian and New Guinea orchids. I had been invited to join the latest of these in September 1983 because of my interest in New Guinea orchids.

The expedition, comprising eight botanists and a photographer, had as its objective the study of an area to the north of the Pascoe River itself just north of the Iron Range National Park and about 100 km or so south of the tip of the cape.



## THE ROADHOUSE ON THE ARCHER RIVER — Continued

The Pascoe River enters the Coral Sea just south of the low hills called the Kennedy Range. These were named after the tragic Edmund Kennedy who was killed by aboriginals thereabouts in 1848, when leading the first expedition to penetrate the interior of the cape. His botanist, William Carron, was one of the only three to survive having been left behind at the Pascoe River to await a rescue party. The valley immediately to the north of the Kennedy Range is named in his honour.

### The Kennedy Range and the Carron Valley

The Kennedy Range can best be described as a gigantic rock-pile covered for the most part by low forest dominated by trees such as *Acacia aulacocarpa*, *Castanospermum australe*, *Calophyllum*, *Terminalia* and the ever-present Rattan or Lawyer Vine, *Calamus australis*. Brass refers to this type of forest as 'rocky scrub' and it is a good description for the forest is often relatively thin especially when rockslides have swept broad belts away.

Our approach to the most easterly end of the range took us from the mouth of the Pascoe River along a magnificent long beach of glistening white sands. Here, the tide line was scattered with the remains of shells of the blue-lipped oyster and that strange relict cephalopod, Nautilus. The surf also contained another surprise, a three-metre long salt-water crocodile. Since hunting has been banned, crocodiles have proliferated hereabouts and a constant lookout has to be kept for them especially when crossing the mangrove swamps and small creeks that dissect the area.

Less fortunate has been the dugong, a strange aquatic mammal hunted to the verge of extinction here by the aboriginals. A couple of days later, we were exceedingly fortunate to see one grazing on under water plants near the mouth of the Pascoe. The way up into the hills began just behind the beach and the going deteriorated as we entered the rock-piles. These consist of large granite boulders often the size of a house precariously perched on one another with trees, scrub and lianas growing from out of the crevices or even on top of the more stable ones. The most familiar plants here were *Scindapsus* and *Scheffera actinophylla* both commonly cultivated, the latter a favourite in Brisbane gardens. Orchids also increased in frequency as we climbed and clambered up into the rock-pile. The hanging pencil-leaved *Dendrobium teretifolium* and the closely-related *D. rigidum*, both in full flower were common epiphytes on overhanging trees.

However, most of the orchids were to be found on the surfaces of the rocks, a not uncommon epiphytes preference for epiphytic orchids if the conditions are moist enough.

The most spectacular orchid here was *Dendrobium discolor* often producing stout canes up to two metres long topped by sprays of golden brown flowers. It is a particularly variable species, and this was amply demonstrated when a small colony of a violet-tinged form was discovered growing in full sun in one of the rock-slip areas. This orchid is part of the New Guinea element in the flora as is *Dendrobium bifalce* which is the only Australian representative of sect. *Latouria* (Cribb 1983) but it is also common in lowland New Guinea. We found several large colonies in full flower here growing

on the almost-vertical sides of the large rocks. The flowers are charming, yellow or yellow-brown spotted with maroon and with a large pure-white callus. These are held in at the end of a long flower stalk at the apex of yellow club-shaped pseudobulbs topped by a few dark glossy-green leathery leaves.

In many ways the descent from the ridge top proved more hazardous than the ascent but much more rapid. Jumping from boulder to boulder was a knee-shattering experience but produced the find of the day — a large colony of *Vanda hindsii*, a species widespread in New Guinea which is found only rarely in Northern Queensland. It is a large plant which here formed a colony several square metres in extent. Although most stems carried seed pods, a solitary plant in the centre and overhanging a deep chasm was still flowering. The flowers are waxy to look at and of a chestnut-brown colour with a white lip faintly marked with violet.

Overall we were rather surprised by how few orchids we found in Kennedy Range, no more than a dozen species although some were quite common. The aerial photographs had suggested that the area may be like the Iron Range area to the south and altogether wetter than it proved. The contrast was even more marked, however, when we entered the Carron Valley by a rough track at the western end of the Kennedy Range. It runs northeastwards down to the sea and is flanked by the low but rugged outcrop of Huxley Hill on its northern side. The bottom of the valley contains open woodland of *Melaleuca* and low eucalyptus trees. Down its centre runs a creek fringed by mangroves and emptying near the beach into a mangrove swamp.

In the absence of any alternative accessible site, we camped on a tributary of the creek some three kilometres from the sea, a spot with scarcely enough fresh water for such a large party. However, the stream held enough water to boast two bladderworts, one yellow and the other violet flowered, while damp patches nearby also had large colonies of a Trigger plant (*Stylidium*).

The valley yielded few orchids other than *Dendrobium rigidum* and *D. discolor*. Two species allied to the latter, the yellow and brown-flowered *D. semifuscum* and *D. canaliculatum*, were relatively common in the open woodland here. The latter is popularly called the Tea Tree Orchid as it is nearly always found growing on the papery bark of *Melaleuca* species. In this area and in much of Cape York, this orchid has pretty white flowers with chocolate-brown petals and violet marks on the lip and is referred to var. *nigrescens*.

Hann Creek. The poverty of the flora near the coast encouraged us to turn our attentions inland some 35 km to an area at the southern end of a low range of sandstone hills with the grandiose title of the Sir William Thompson Range, the northernmost extension really of the Great Divide. On our bone-shaking journey into the Carron Valley we had espied several areas of rain forest and scrub that promised well. In particular, several stands of the tall conifer *Callitris intertropica* looked worthy of further investigation.

We camped near the foot of some rugged cliffs and by the side of the fast-flowing and welcoming-cool waters of a creek boasting a bath-sized water hole. Water is the critical factor for all life in the cape, the more water, the greater the diversity of both plant and animal life. The creek was fringed by a narrow belt of rain forest never more than 100 metres or so wide. A very large tree of *Acacia mangium* near the



## THE ROADHOUSE ON THE ARCHER RIVER — Continued

camp on the edge of the creek proved a popular viewing for inquisitive palm cockatoos, surely one of the most spectacular of all parrots, jet black all over including the crest except for its scarlet-cheek patches.

The stream beside which we pitched camp proved to be a tributary of the wider and deeper Hann Creek, up to about seven metres wide hereabouts. A careful search downstream soon revealed large flowering plants of the well-named Bottle Brush Orchid, *Dendrobium smilliae*, with stems up to a metre long hanging over the stream on the trunks of screw pines (*Pandanus* spp.).

This attractive plant produces dense heads of flowers at the apex of leafless canes. It is pollinated by a bird, the Yellow Honeyeater, which perches at the top of the cane and rapidly probes all of the conical flowers in the head for their nectar. (Smythe, 1970).

Other orchids were not common but several other epiphytic species were seen including *Dendrobium bifalce*, *Pholidota imbricata* and *Acriopsis javanica*. These are species found in New Guinea and belong to the element dominating the northern Cape York flora.

A refreshing dip in the waters of the creek yielded another *Utricularia* and the strange floating pipewort, *Eriocaulon aquaticum*, only the flowers appear above the water.

The *Callitris* thickets lay away from the creek and presented an altogether drier facies. They proved rather difficult to penetrate but yielded several orchids not seen elsewhere. We stumbled on or across a plant of *Cymbidium madidum* growing on a fallen log and two specimens of the endemic *Dendrobium stuartii* most closely related to some of the SE-Asian *dendrobium* species. One of these thickets also yielded a spotted cuscus, a nocturnal marsupial not previously recorded from the area.

Although our trek downstream had yielded few surprises, the following day more than made amends. Working upstream we entered the large area of swamp forest at the foot of the cliffs above the camp. Moving through the swamp forest was painful and slow as it proved to be full of vicious spiny threads of the Wait-a-While or Lawyer's Vine (*Calamus australis*), that festooned the forest like tinsel on a Christmas tree.

However, the discomfort was more than relieved by the richness of the plant life, a *Freycinetia* whose scarlet flowers had been ripped off by a gang of sulphur-crested cockatoos growing side by side with the stately palms *Gulubia costata* and *Licuala* sp. The effort proved worthwhile for two of the team, David Jones and Bruce Gray, discovered a slender tree-fern deep in the swamp and their suspicions have recently been confirmed that it is a new species of *Cyathea* (*Alsophila*).

The forest finishes at the base of the rocky cliffs above the swamp whose many shallow caves and overhangs are the habitat of rock wallabies and python. The plateau above is covered in an open eucalyptus savannah. Orchids were commoner here than below, growing on rocks on the very edges of the cliffs.

*Dendrobium smilliae* was again the commonest species but it was almost matched by large colonies of *Bulbophyllum baileyi*. These however, were soon forgotten when the orchid for which we had all been searching, the exquisite *Dendrobium carronii* was found in full flower on the trunks of *Tristania excelsa* in open woodland.



*Dendrobium carronii*, p. 130.

This orchid holds a special significance for Bill Lavarack and myself for we described it only last year. It grows on the trunks and larger branches of *Tristania excelsa* and is confined to slightly-wetter areas of woodland than its close relative, well-known Tea Tree Orchid, *Dend. canaliculatum*. It is not unlike the latter but it differs in having distinctly-coloured flowers with rich glossy-maroon petals and a bright yellow lip.

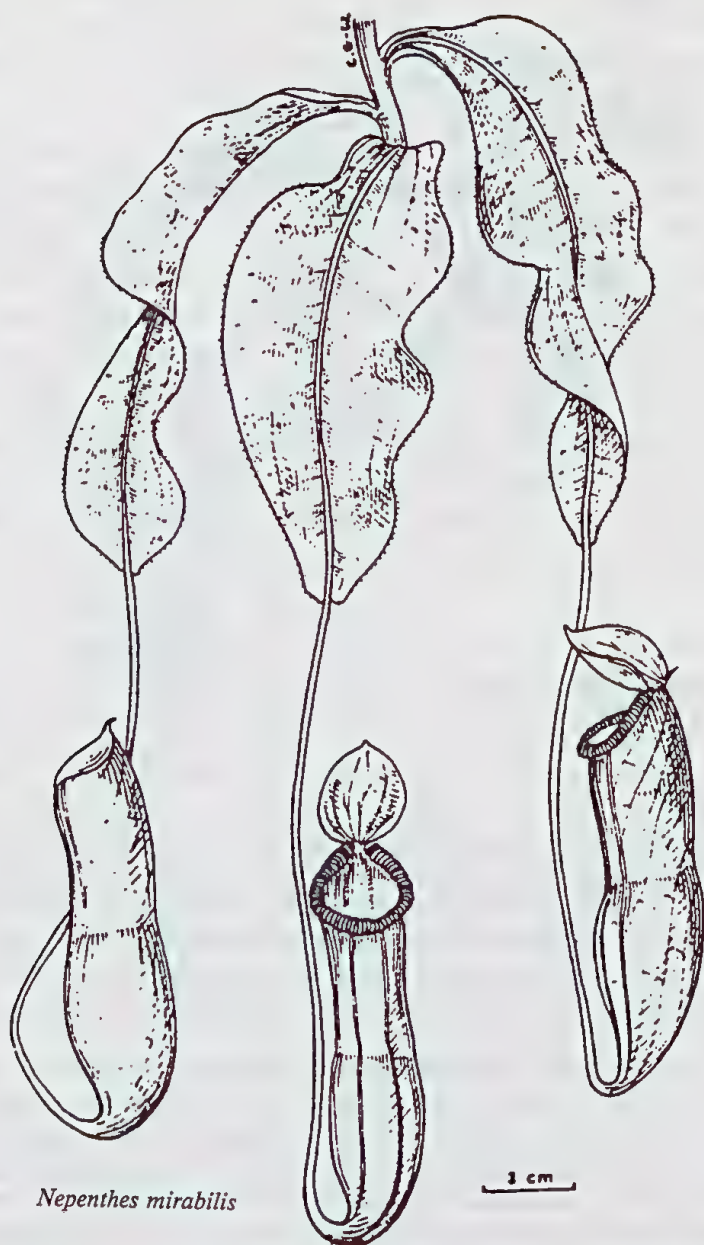
Brown's Creek . . . Robert Brown holds a special place in the annals of Australian orchidology. As a result of joining as botanist Matthew Flinders' circumnavigation of Australia, he described more Australian orchids than anyone else. Therefore, it was appropriate that we finished our expedition by setting up camp at Brown's Creek on the track to the Iron Range National Park and to the south of the Pascoe River.

What began as an overnight stop on the way home proved to be the highlight of the expedition. A narrow strip of forest separated the stream from a large area of marsh full of pitcher plants, *Nepenthes mirabilis*, four *Utricularia* species and several orchids, *Spathoglottis plicata*, *Bromheadia venusta* and *Dendrobium lobbii*, the last being one of the few terrestrials in a predominantly-epiphytic genus.

Brass had visited and commented on this very same swamp some 35 years before. He missed however, a pale green terrestrial orchid growing in the forest by the creek. The dozen or so plants proved to be a *Habenaria* which had survived despite the havoc caused by wild pigs rooting around there. We are sure this species has never been found in Australia before and suspect that it may be new to science. Altogether the best way to end an enjoyable expedition.



## THE ROADHOUSE ON THE ARCHER RIVER — Continued



*Nepenthes mirabilis*

### Conservation Postscript

As with previous Australian Orchid Foundation's-funded expeditions to Cape York, the results of this one will be written up into a report for the Queensland National Parks and Wildlife Service.

For the Pascoe River area, they will almost represent the only source of information on the vegetation of this fascinating region.

Nowadays the cape is changing rapidly. Roads are improving and tourism is increasing every year. Development goes hand-in-hand with the latter and in the cape the coastline and eastern forests are under the greatest threat. Already the coast north of Cairns is changing rapidly as development heads northwards. On our own journey north to Pascoe River, we reached the Archer River only to find that a cafe had appeared there since the last AOF expedition.

As Bill Lavarack commented 'soon we will have to find somewhere else to go when the tourists realise what a delightful place Cape York is'.

Hopefully his enthusiasm for the cape and his carefully-compiled reports will help save at least some of the more-important areas for future generations to see.

### Acknowledgements

I would particularly like to thank Mr Gerald McCraith and the other directors of the AOF for their generosity in allowing me to join the 1983 Cape York expedition; and Bill Lavarack, Ron Collins, Bruce Gray, Neville Howcroft, David Jones, Ben Wallace, Peter Hind and David Wilson for their help and good company on the expedition.

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### How Dangerous? *Sporotricum schenkii*

In the September 1984 issue of AOR (page 210) a report was published on the potential danger of infection by the fungus *Sporotricum schenkii*.

After reading reports on it in the *American Horticulturist* of September 1983 and in the *Carnivorous Plants Newsletter* Mr Robert Reidl, biochemist member of the Bromeliad Society tested samples from his garden. Using culture techniques he found it in decaying wood and in compost, but not in his sphagnum moss. However, due to it being common in some American sphagnum Mr Reidl issued a warning to members of the Bromeliad Society.

From the information received by AOR it appeared that the local moss had been infected. Mr Reidl believes that though improbable it is possible for sphagnum to become infected here, as it has in America. Therefore reasonable care should be taken in handling sphagnum and decaying compost. An awareness of the symptoms is advisable because early treatment is important.

### Devonport's Big Night

Devonport Orchid Society had one of the best nights in its history last March when not one but two of Australia's leading orchidologists were entertained. Or was it the other way about? Anyway everyone enjoyed themselves including Mr Syd Monkhouse and Mr Jim Rentoul. Syd is one of Australia's leading hybridists and administrators; Jim is our leading orchid writer.

Syd gave a talk on breeding trends in cymbidiums and showed slides of interesting colours in his current breeding. Jim gave a very humorous commentary on floral art judging.

And the cream of the cream was the announcement that two members Pam Bartlett and Gwen Smith had been honoured by being made judges of the Tasmanian Orchid Society. Congratulations girls — you earned it.

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AOR would appreciate being notified of any infection by this fungus so that others may be warned.



# Orchid People

Mr Frank Slattery is everywhere venerated for his many contributions to orchidology. We have learnt from Townsville of another splendid gesture by Frank. On hearing that the Townsville Orchid Society had purchased its own hall Frank sent a letter commending the society on its far-sightedness and enclosing a cheque for \$100 towards the cost of furnishings.

Frank and his wife Jean have always had a special interest in Queensland. They encouraged the formation of the Tropical Queensland Orchid Council and each year for twenty years have journeyed to its annual conference. For all those years Frank has been the council's patron.



Two of Melbourne's indefatigable workers for orchids have retired. Over many years Bert and Mary Smith of Ringwood East built up not only the orchid nursery of Bermar Orchids but a reputation for integrity and helpfulness. They were involved in the formation of the Maroondah and Ringwood orchid societies and strong supporters of the Warrigal Society. As supporters of the Ringwood Orchid Society they played an active part in the very successful spring shows of that society.

Bert and Mary have sold Bermar Orchids to the partnership of Neil Hamston and Barbara Sturton who intend to maintain the high standards set by their predecessors. Their many friends will wish Bert and Mary Smith a happy retirement



Last issue mention was made of Mr Mak Chin On of Maryland Nursery, Singapore and his famous intergeneric hybrid *Mokara* Mak Chin On, a cross of *Aranda* Christine and *Ascocenda* Blue Boy. A clone of this cross 'Hui Lan' was the only plant to receive an Award of Merit from Orchid Society of South East Asia in 1980. The plant had large, well-formed flowers of bright imperial purple on a long spike. The society regarded it as a meritorious achievement in hybridising and awarded Mr Mak the coveted Eric Holtum Gold Medal.

Mr Charles Smith, BEM has been patron of the Cumberland Orchid Circle for quite a few years now. Unfortunately for the past few years he has been an invalid, a double tragedy for a man who has devoted his life to the service of others. He has held every office in the circle and also his local progress association. He was five years president for the local branch of Legacy and of course served in the war. Then for two years he was vice-president of his local branch of the Spastic Centre. For nearly nine years he was honorary secretary of the Hornsby Shire Senior Citizens' Welfare Committee and was honoured with life membership. He was a foundation member of the Hornsby Shire Play Centre Committee and served for over 25 years, many of them as president. Plus work for many other organisations.

In 1979 he was honoured by the Queen with the British Empire Medal. Two years later he received the State Government's Premiers Award. No wonder then that in his hour of need the Cumberland Orchid Circle rallied to organise money-raising functions to buy him a wheelchair.

Charles Smith maintains his love of orchids.



Mr Wal Rhodes is currently president of the Berowra Orchid Society. Twenty-five years ago he was foundation treasurer, then show marshal for nearly two decades, followed by a term as vice-president.

Since Wal became president Berowra seems to have had an endless stream of activities, an orchid promotion at the massive Northgate shopping complex, camping trips, a workshop and fine shows in the beautiful new Berowra Community Hall, a silver anniversary champagne and chicken supper at the 1983 Spring Show. The champagne and chicken now seems set to be an annual event. In spite of, or maybe because of, all this activity the society retains the family atmosphere. Whole families turn up at meetings. The first junior member, David White, was Wal's predecessor as president.

John Woodward has made history by becoming the first Tasmanian to become a vice-president of the Australian Orchid Council. Indeed the first Tasmanian to hold office on the AOC. John plays an active part in the Tasmanian Orchid Society and for two or three years did a very good job of editing the TOS Newsletter.

John and his wife Beverley have built up a comprehensive nursery, Troweena Orchids, close to Hobart, noted for a wide range of genera and growing aids. They have been trading quite a few years now and the fact that Tasmania can support a large orchid nursery indicates that orchids have really come of age in the State.



From the cradle to the presidency! When young David Banks was born just over twenty years ago his father, Graeme Banks, took out family membership, thus David has been a member of Parramatta Orchid Society for all of his life. At the last AGM he was elected president. The view was expressed by the returning officer, Mr Frank Slattery, that David must surely be the youngest president ever of a NSW-affiliated society — particularly a major one like Parramatta.

David has been growing orchids since he was a toddler. He was flasking in his early teens and has registered several hybrids over the last two years. He has been very successful with native hybrids and the line breeding of *Dendrobium kingianum*.

David's father, Graeme is now in his ninth year as secretary of Parramatta. Congratulations David and Graeme.



Mrs Coran Cox is one of those homely gardeners who grow orchids for their decorative appeal. She is an ex-president of the Devonport Orchid Society, Tasmania. When Devonport OS exhibited at a weekend garden show put on at the local high school Mrs Cox spent hours making up posies for the event. A big effort which gave pleasure to many people and gained kudos for the society.

Tasmania has a reputation for lifers from way back but the early ones were not as deserving as the new Tasmanian Orchid Society life member most certainly is. Ron Mansfield has well and truly earned the honour. He joined the society in 1963, became a committee member in 1969, was president for three years from 1971.

After an apprenticeship and term as associate he became a full judge in 1970. In 1972 he was appointed registrar of judges.

Ron Mansfield has served on numerous committees and been involved in several Australian Orchid Conferences. Ron currently enjoys his orchids in semi-retirement at Huonville, the heart of Tasmania's apple industry.



Dr Greg Williams of Rockhampton is noted for his growing of hardcanes and vandaceous orchids. A couple of months ago Greg drove from Rocky to Gladstone on a wet and miserable night to talk and show slides of his recent trip to Hawaii. That's a round trip of about 500 kilometres. In a State where many societies are a couple of hundred kilometres from a neighbouring society distance melts away in the interests of orchid fellowship.

## Society Wisdom

### DON'TS FOR CYMBIDIUMS

- Don't overpot.
- Don't overwater.
- Don't allow to dry out.
- Don't subject leaves to direct summer sun.
- Don't overshade.
- Don't spray white oil on sunny days.
- Don't use wet sprays after buds emerge.
- Don't overfeed with liquid fertilizers.
- Don't let temperatures rise over 90°F.
- Don't take plants into heated dry indoors.
- Don't water at all, if in doubt.
- Don't stake spikes on cold mornings.
- Don't water open flowers.
- Don't re-use old compost.
- Don't cram plants too close together.
- Don't keep virus-infected plants,

**BURN THEM.**

*OS of Nor-West Tasmania Bulletin*





## HISTORIC PHOTO

*We apologise for the technical fault which spoilt reproduction of this illustration in the last issue. It is repeated because of the great interest it created. This photo of seven past presidents and the then current president of the Orchid Society of NSW was taken during commemoration of the society's Golden Anniversary. From left they are: Messrs Sid Waldie (1978-80), Bert Schwartz (1969-71), Lou Sasso (1963-65 and 1975-77), Allen Begg (1948-50), Frank Slattery (1960-62 and 1966-68), A.B. Porter (1954-56), Jack Bisset (1951-53) and Wal Upton (1981-83). Absent with leave: Barry Collins. Other presidents, now deceased, have been Judge H.F. Markell (1934-42), Messrs E.A. Hamilton (1943-45), W. Rothwell (1946), Dr J.A. Vote (1947) and Sir John Hall Best (1957-59). Photo by Barry Long.*

## ANOS Sydney's New Venue

The ANOS Sydney Group now meets at the Lady Game Community Centre, Lindfield. This is on the corner of Moore

Avenue and Bradfield Road. Third Friday of month at 8 pm.

## Victorian ANOS Gets About

The Victorian Group of the Australasian Native Orchid Society certainly get around the countryside. Day field trips are the norm and weekends to Mallacoota and the Grampians not unusual. One year some of them chartered a plane for an attack on the orchids of Flinders Island. Last year it was a well-organised dash to the wilds of north-western Tasmania in co-operation with North Tasmania ANOS Group.

In September this year they plan to link up with the Native Orchid Society of South Australia in an enveloping movement on the Adelaide Hills and some Adelaide growers.

Yes, they certainly study their orchids *in situ* and the end result is a lot of very knowledgeable field naturalists. They have a good time, too.

# Orchid Judging in Japan

The Twelfth World Orchid Conference is now less than two years away. Japan's blend of charm, graciousness and jet-age efficiency will all make a visit to the conference a memorable event for those able to go.

In a talk at the judging seminar held during the Eleventh WOC at Miami Mr Hiroyuki of Tokyo outlined a little of the history of orchid societies in Japan and methods of judging.

Mr Gauda is a judge of three orchid organisations in Japan: Japan Orchid Growers Association (JOGA), Japan Orchid Society (JOS) and All Japan Orchid Society (AJOS). He is judging chairman of the AJOS.

The growing of orchid hybrids began in 1891 when species and hybrids from abroad were planted in Shinjuku Gyoen, the Imperial Family's Botanical Gardens. In 1917 Teikoku Airankai (Royal Orchid Society) was formed and judging was based mainly upon the appreciation system of the Royal Horticultural Society. During World War II orchid growing almost died out in Japan.

In 1947 the Japan Orchid Growers Association was organised for commercial growers. Then in 1955 a hobbyist body in the Osaka area became the Japan Orchid Society. The All Japan Orchid Society was formed in Tokyo during 1957. As orchid growing became more popular the two last-named bodies started judging. Mainly they followed the system of the American Orchid Society.

JOGA has members all over Japan. It is a late-comer as its judging system dates from 1977. However it has been responsible for most of the awards.

Although JOGA is an organisation of commercial growers it also makes awards to non-members. Its most prestigious award is Certificate of Superior Quality (SQ) for a clone which shows superior quality from the commercial point of view for cut flowers or pot plants.

In judging dendrobiums it sets the standard of points for nobile-type separately from spray-type because in Japan there are many nobile-type plants.

Five or more judges must be present.

The results of JOGA judging are published in the association's bulletin three or four times a year. They are illustrated in colour in the register of awards which is published every two years.

The organisation trains student judges. Candidates are given work such as note taking on orchids they see, arranging slides and records, and working as stewards during judging.

At the Twelfth WOC the Japanese panel will comprise as many judges as possible who can speak English as well.

As one would expect Mr Hiroyuki Gauda has an interesting background in orchids. He comes from an orchid-growing family in the Tokyo area and their nursery is noted for innovative use of space. Their greenhouses are two-floored with the upper floor of glass to admit light to the ground floor. The Kokusai Nursery Co Ltd (H. Gauda Orchids) is agent for Stewart's Inc of USA. The firm has introduced many American orchids to Japan. Mr Gauda specialises in lycastes and cattleyas.

Acknowledgment to *OSSEA Bulletin* for most of the above.

## Twelfth WOC Tours

Several tours are being organised for the World Orchid Conference in Japan. Because it is still some time away and the exchange rates are likely to be unsettled for the immediate future tourist agencies have been unwilling to quote.

The OS of NSW tours committee is monitoring the situation and without obligation you can register your name with the chairman, Mr Bill Smoothey. You can then be notified the moment concrete arrangements are in hand. The address is 15 Merlin Street, Roseville, NSW 2069.

Organisers of other tours are invited to send data for publication.



# AOF Supports Vital Export Market

The Australian Orchid Foundation has voted financial support for important research on the post-harvest life of cymbidium flowers. The object is to find more efficient and cheaper ways of handling blooms. Upgraded handling will mean better presentation at sale and thus increase demand. All suppliers must benefit.

The research is to be directed by Associate Professor Helen Nair of Kuala Lumpur University. Dr Nair is at present working with CSIRO at Ryde Food Research Laboratory.

Cymbidium growers and exporters are invited to contribute financially to this research. Send donations to The Director, Australian Orchid Foundation, 107 Roberts Street, Essendon, Victoria 3040.

There is a substantial trade in orchids around the world but the Australian input could be much more substantial. This is particularly significant as the spiralling energy costs cut down production of orchids requiring temperature and light-regulated glasshouse conditions, in the cooler European countries of the northern hemisphere.

In NSW, cymbidiums are successfully propagated under greenhouse conditions with a minimum requirement for tempera-

ture regulation during the cooler months of winter. An impressive array of good planting material and cut-flowers is produced as part of the growing trade in orchids. The export trade in cut-flowers is believed to be around two million blooms per year. The distribution among various trading partners is as follows:

Country	Quantity
USA	500,000 (mainly corsages)
Japan	350,000 (mainly cut flower)
Holland	350,000
Italy	300,000
Switzerland	180,000
Canada and others	320,000

At 60¢ per stalk (FOB) this amounts to only A\$1.2 million. In contrast, cut-flower imports from ASEAN countries to Europe alone reached a value of about 25 million US dollars, according to a survey carried out by the Institute of Horticultural Economics, Hanover, Germany (Alvensleben, 1980). The same report drew attention to the urgent need for more sophisticated handling of orchids in the cut-flower industry.

To date very little use is made of controlled-storage conditions or preconditioning of flowers for the export trade in orchids.

Consequently, the normal practice is to air-freight the ornamentals to the foreign markets in the shortest possible time, thus raising the overhead costs for the industry. Therefore, there is an urgent need for a research programme in Australia to investigate methods to prolong bench-life and keeping quality of the orchids and to link this to proper handling and storage techniques.

**Objectives.** Standard procedures long advocated for use with temperate flowers (Mayak, 1982) have been developed for solitary flowers. However the cymbidiums which constitute the bulk of the orchids traded in Australia, are borne on attractive inflorescence spikes. Hence post-harvest behaviour of these orchids could be different and needs to be carefully monitored based on chronological age and physiological changes in the flowers so that appropriate handling and storage procedures can be designed.

The objectives of the project proposal are as follows:

1. To monitor post-harvest behaviour of blooms along inflorescence spikes of the cymbidium orchids popular in the cut-flower trade.
2. To design storage and handling systems which would improve current practices, lower freight costs and fetch a better value for Australian orchids in the international market.

#### Experience with ASEAN orchids.

Studies along similar lines were begun in the University of Malaya in 1979 with *Dendrobium* and *Oncidium* orchids popular in the cut-flower trade in Malaysia.

**Research staff.** The project leader is Dr Helen Nair, Associate Professor of Botany, University of Malaya currently on nine-months' sabbatical leave with CSIRO Division of Food Research. Mr K.J. Scott, Senior Research Scientist, NSW Department of Agriculture, located at CSIRO Division of Food Research will provide assistance in removing ethylene from the vicinity of the orchid blooms.

**Location of project work.** The research programme will be conducted at the laboratories of CSIRO, Food Research Division, North Ryde.

**Flower material.** A preliminary survey has identified a very reliable supply of orchid flowers from an internationally-renowned *Cymbidium* hybridist and major exporter of the blooms at Kurnell.

It is envisaged that other local growers will also be involved to ensure sufficient numbers of each orchid type investigated.

**Period of investigation.** Initially, to cover a six-month period from March-August 1985. Our initial discussions have established that there is very little contact between the orchid growers and post-harvest research workers in the country. And yet, CSIRO and the Department of Agriculture have very close links with the fruit and vegetable growers, who have benefited quite substantially from the expertise readily available to them. It is envisaged that post-harvest handling and storage techniques advocated for fruits and vegetables can be suitably modified for the local ornamental industry. This should provide more job opportunities and bring in increased revenue.

**Workplan.** Studies with the ASEAN orchids suggest that any treatment which interferes with water balance and ethylene biosynthesis can modulate the post-harvest life and quality of the flowers. The experiments planned for this programme will explore how inhibition of ethylene biosynthesis and its effects, together with maintenance of proper water relations can prolong keeping quality and improve storage and handling methods for the cut-flowers. The following studies will be conducted:

1. Evaluation of different chemical treatments for prolonging post-harvest life and quality of the orchid cultivars.
2. Investigations on the suitability for the orchid industry of low-cost technology provided via the application of modified atmosphere storage in plastic bags, including absorption of ethylene — a method which has proved very effective for certain fruits.
3. To devise appropriate packing methods to reduce the need for the inclusion of water at the base of cut-flowers so reducing air-freight costs. This will entail studies on water relations of cut-flowers.

#### REFERENCES:

- Alvensleben, R.V. (1980). *Marketing of Tropical Orchids from ASEAN Countries in Western Europe. Proc. Third ASEAN Orchid Congress*, Ministry of Agriculture: Kuala Lumpur, Malaysia, pages 176-202.
- Mayak, S. (1982). Post-harvest Handling in Floriculture — Present State and Future Development. *Proc. XX1st. Int. Hortic. Congr. Vol. II*, pages 836-849.
- Nair, H. Post-harvest Physiology and Handling of Orchids. *Eleventh World Orchid Conference*, Miami, USA. March 1984.

## AOF Conservation Species Flasks

Mini flasks of rare species specified in the last March and December issues may still be ordered from Ian and Pat Walters, 1419 Ross River Road, Kelso, Townsville, Queensland 4810. A further batch of endangered species will be announced in the next issue.



# Autumn Shows

## Redcliffe Orchid Society Autumn Show

The society's annual autumn show was held in the Centre Plaza at Kippa Ring Shopping Village on April 11, 12 and 13, 1985.

Five massed displays containing all types of cattleyas, lots of phalaenanthes and spathulata hybrid dendrobiums, oncidiums, species and the odd paphiopedilum and phalaenopsis interspersed with a variety of bromeliads and decorative ferns and foliage plants made a very attractive and colourful picture of what an orchid show should look like.

Champion orchid was awarded to a superb *Catasetum* Orchidglade exhibited by Ron and Joy Turner. Inflorescence contained five fully-open 9 cm golden cream, heavily purple-spotted flowers of eye-catching beauty. Besides the general public, it is rumoured that several veteran orchid growers were heard to remark that 'for once the judges got it right'.

Ron and Joy also exhibited the champion specimen orchid, a *Dendrobium bigibbum* var. *superbum* carrying 12 spikes averaging 14 fully-opened flowers per spike. Reserve Champion went to a well-flowered *Den.* Maid of Gloucester exhibited by Doug and Kath Wanka.

An extremely good form of *Epidendrum cochleatum* exhibited by Ken and Nola Parnell took the Champion Species award. The plant carried four 70 cm spikes each carrying four fully-open flowers and two or three buds. Each flower had a 3 cm labellum with 7 cm twisted sepals and petals.

A very dainty *Slc.* Hazel Boyd 'CTM 91' with its overall orange colouration and red-tipped petals and labellum took the blue ribbon for its exhibitors, Jim and Betty Raddatz, in the Novelty Cattleya class.

A feature of the show was the massed display of Australian native and spathulata hybrid dendrobiums exhibited by Ed and Mary Thorogood.

The massed greenery contributed by the potted palm and foliage plants exhibited by the Redcliffe City Council.

## QOS Autumn Show 1985

The QOS held its 1985 Autumn Show in the auditorium of the Mt Coot-tha Botanic Gardens — April 12-14.

The show was staged as a championship show — no massed displays. Individual plants were arranged on tables, much to the admiration of we, not so young, anymore, orchid buffs who didn't have to stoop or squint to see and admire our much-loved orchids. Furthermore, those little sophros and botanicals were not hidden in the sea of greenery.

To involve the public more, a novel competition was introduced — whereby patrons were asked to act as judges and cast their vote on plants in a selected section.

*Colmanara* Jungle Monarch 'Everglades' (*Odn.* Debutante x *Onc.* maculation) was Grand Champion of the Show. It was also awarded the prestigious — The Most Pre-eminent Entry — and the QOS judging panel granted it an HCC. One of the main desirable features of the *Colmanara* was the spike habit. It was shaped like a large fan with not a bloom out of place. If it had not received an HCC it should have been awarded with an Award of Distinction for spike habit.

The exhibitors D. and M. Butt certainly did a fine cultural job on this plant and let's congratulate them because spikes like this just don't happen.

D. and B. Littman tabled several top notch *Dend.* Dalellen. They were placed first, second and third in *Dend.* Phalaenanthes Bi-color class. One clone was awarded Champion *Dendrobium* and Reserve Champion Orchid of the Show. Several dendrobium growers have been complaining because of shortness of spike this year, but judging by the length of spike that the Littmans have produced on their plants — surely they must have some magic potion or lotion. Incidentally *Dend.* Dalellen is (*Dend.* Lady Gem x Paradise Pearl).

Champion Specimen of the Show went to *Dend.* Albertine, tabled by Ed Thorogood.

This pale mauve antelope dendrobium exhibits no *D. bigibbum* characteristics, that is one of its parents.

The champion *Dend. bigibbum* var. *superbum* was tabled by D. and B. Littman. Once again the Littmans demonstrated their expertise in the art of growing and flowering fine orchids. They also tabled the Champion Species — *Dendrobium bigibbum*.

C. Queen Sirikit 'Diamond Crown', tabled by A. Manganaro, was awarded the Champion Cattleya. This well-shaped white cattleya (C. Bow Bells x O'brieniana) won from a selling of *Blc. Waikiki Sunset* (*Blc. Walter Abe* x *Waianae Sunset*) by a show of hands.

D. Nitschinsk won the Champion Novice with a very fine vanda (*V. Hilo Charm* 'Blue' x *V. Sinard*). Judging by this effort growers in open section had better watch out.

Frank Oelkers

### Fine Show at Wynnum Central

Eastern District Orchid Society members really turned it on at their recent autumn show. Just on 363 plants were tabled, including a breathtaking display of hardcane dendrobiums.

Congratulations to the show winners, A. & M. Manganaro won Champion Orchid with a crystalline white *Cattleya* Queen Sirikit 'Diamond Crown'. Champion Specimen went to Ken Unsworth with a king-sized *Den. Gloucester Sands* and R. & S. Doolan won top Species with a show-stopping plant of *Cirrhopetalum rothschildianum*.

### Autumn Show at Taree

The display was very well set up with the yellow of the oncidiums in sharp contrast to the mauve of the hardcane dendrobiums. A feature of the display was *Onc. Golden Shower* owned by Fred and Joy Lester which won the Specimen Orchid class; but the most comment by the public was for Ray Clement's *Stenaglottis longifolia* with five upright spikes of pink and white flowers. A nice flowering of *Den. rigidum* and a plant of *Cirrhopetalum grandiflora* also caught the eye.

Bob Zeller

# AOC AWARDS BOOKLET

This aid to appreciation of the best in Australian orchid growing has now been distributed to all subscribers. The publication aids Australian Orchid Council funds.

My apologies for the delay in production. This was largely my fault in that I thought permission to use the AOC slides could be given by the AOC president on his own initiative. While concurring with the proposition Mr Chas Hill said that use of the slides would need to be the subject of a vote by the member States. Due to committees only meeting monthly, and the January holidays, this took longer than expected.

I suggested this booklet to the publishers last June but due to the huge cost of the colour transparencies and the small circulation nothing could be decided immediately. Decision to go ahead came in mid-December just as AOR was going to press, and the publishers included an advertisement for it. Up to that stage I had not contacted Mr Hill because there had not been a definite approval.

In spite of the publishers risking a loss on this first issue AOC funds will benefit. Also a 1985 edition has been approved. It is anticipated that this can be printed as soon as the 1985 awards are ratified in September. Therefore it will be available before Christmas.

Thanks are due to the registrar-general for his help in this production. Mr Peaty supported the idea from the beginning. His checking and approval of the final proofs have ensured absolute accuracy. It will prove a most useful publication for all serious orchid growers.

Copies are available at \$9.95, including postage. Societies and judging registrars can apply for bulk order discounts.

Ronald Kerr



**Schlechter:**

## Every Library Needs One

The selfing and hybridising of orchids from Papua New Guinea has made steady progress since World War II. From a trickle thirty years ago it is now a steady stream which seems destined to become a torrent.

Mr Johnny Jones of Cairns was the first Australian to hybridise with Papua New Guinea species. He registered dozens of such crosses, and also crosses between New Guinea and Australian clones, and New Guinea dendrobium species with Hawaiian hardcane hybrids. All over a period exceeding thirty years.

The late Mrs Eunice Kirkwood made two trips to Papua New Guinea to collect stud species. She achieved considerable success, and at the Sixth World Orchid Conference won Gold, Silver and Bronze Medals for her New Guinea hybrids. Her untimely death was a great loss to orchidology. Many of her crosses were left to be registered by others.

Mr Herman Slade and the late Mr "Kip" McKillop were other early hybridisers. Many of their crosses were sold by the Australian Dos Pueblos Nursery.

Growers in Singapore and Hawaii were quick to find potential in PNG species. During the 1960's it was common to see in registrations such dendrobium species as *D. affine*, *D. schullerii*, *D. stratiotes*, *D. williamsianum*, *D. lasianthera* (syn. *ostrinoglossum*), *D. violaceum*, *D. mirbelianum*, *D. taurinum*, *D. gouldii*, *D. johnsoniae*, *D. lineale* and many more.

With over 1,000 dendrobium species in PNG to select from the potential has hardly been touched.

The leading Australian breeder using New Guinea stock would have to be Mr Kevin MacFarlane of Cairns. His successes have made him a legend in his own time.

Other hybridisers are using New Guinea species extensively. Mr Phil Spence of Sydney is one. He has made about a dozen trips to the island and collected a fine stud stock as the basis for a range of species and hybrids which he sells in flasks.

Interesting work with PNG breeding lines is being done by D'Bush Nursery at Kuranda, Marge Purnell at Mackay and Petra Orchids at Townsville.

The easy availability of PNG species and hybrids derived from them makes it essential to know more about them. The basic work, indeed the only comprehensive work, is Schlechter's *Orchidaceae of German New Guinea*. It is essential reference for hybridisers and important to plant buyers. The former need to own it, the latter should be able to refer to it when necessary. In view of which it is surprising that more societies haven't bought it for their libraries.

At 1,180 pages involving 1,450 species, and with detailed habitat data, it is packed with information for the grower of hardcane dendrobies, and the genera *bulbophyllum*, *coelogyne*, many vandaceous orchids and the *sarcanthinae*.

The cost is \$150 and worth it. But if you need it for only occasional use the thing to do is to propose at your next society meeting that a copy be bought for the library. How about it!

Send the order to: The Australian Orchid Foundation, 107 Roberts Street, Essendon, Victoria 3040.

Note: *The Orchidaceae of German New Guinea* was translated into English at the instigation of the Australian Orchid Foundation and published by that body.

### Victorian Workshop

The Victorian Orchid Club conducted an orchid workshop on May 11 on behalf of the Ararat Orchid Society. Ararat is 200 kilometres west of Melbourne. This has proved a wonderful help to growers and intending growers. Due to its comparative isolation only occasionally can Melbourne growers visit. Ararat members meet on the second Friday of the month at the Church of Christ Hall and are always pleased to receive visitors. Speakers are doubly welcome, contact Mr Ron Selwood the secretary at Picnic Road, Ararat, or phone (053) 52 1845.

# SHOW DATES, MEETING NIGHTS AND ADDRESSES

**ABBREVIATIONS.** Details have been shortened where no ambiguity is likely. After meeting day the words "of month" are implied. Where applicable open hours are indicated by a dash between figures, thus 9-9 indicates 9am to 9pm. Shows in shopping centres open only in shopping hours.

**DATA.** The listing includes all available data at time of going to press. However some societies have not completed arrangements re show dates. The address of the last-known secretary is given. Would societies please advise any changes or additional information.

## NSW SYDNEY AREA

**Orchid Society of NSW.** WINTER. Ashfield Mall. Whole week commencing Mon, June 17. SPRING. Roselands Shopping Centre, Mon, Sept 16 to Sat 22. Show Marshal: Mr I. Chalmers, phone 525 7215. Meets last Mon at Henley Bowling Club, Crown St, Henley. Sec: Miss Betty Oldfield, phone 632 5712.

**ANOS Warringah Group.** SPRING. Mona Vale Memorial Hall. Benching Fri 6/9. Sat 7/9, 9-9. Sun 8/9, 10-4. Admission 60c. Children and pensioners free.

**Bankstown OS.** WINTER. Scottish Hall, Weigand Ave, Bankstown, 1/7, 8. SPRING. Bass Hill Shopping Plaza, Mon 9/9 to Sat 14/9. Meets 1st Mon, Scottish Hall. Sec: Mr K. Healey, 78 Alma Rd, Padstow Heights 2211, phone 77 9350.

**Berowra OS.** SPRING. Community Hall, Gully Rd, Berowra. Fri 20/9, noon-8. Sat 21, 9-9. Meets 3rd Thurs, Berowra Com. Hall. Sec: Mrs M. Barrett, Cullenya Close, Berowra 2081, phone 456 1764.

**Blue Mts. & Dis. OS.** SPRING. Melrose Hall, Emu Plains. Sat 5/10, noon-5. Sun 9-5. Mon 7/10, 9-5. Meets 4th Fri, Melrose Hall, Great Western Highway, Emu Plains. Sec: Mr D. Burns, 34 Lorne Ave, Penrith, phone (047) 31 4167.

**Cumberland OS.** WINTER. Castle Towers Shopping Centre, Castle Hill. Thurs 4/7 to 6/7. SPRING. Same venue. Wed 4/9 to 7/9. Meets 4th Wed, Uniting Church Hall, Castle Hill Rd, West Pennant Hills. Sec: Mrs E. Lyttle, 25 Bishop Ave, West Pennant Hills.

**Cymbidium Club of Australia.** See Southern Dis. Combined Show. Sec: Mr C. Keats, 3 Woonoona Pde, East Oatley 2223.

**Eastern Suburbs OS.** Meets St Luke's Church Hall, Arden and Varna Sts, Waverley 3rd Mon. Internal show 16/9. Sec: Mr S. Condon, 7 Langlands Rd, Annangrove 2154.

**Eastwood & Dis. OS.** SPRING. Masonic Hall, Rowe St, Eastwood. Mon 9/9 to 12/9, 1-10. Tues and Wed, 10-10. Thurs 10-9.30. Meets 1st Wed. Uniting Church Hall, Acacia St, Eastwood. Sec: Mrs G. Spinner, 30 Providence Rd, Ryde 2112, phone 807 6727.

**Five Dock RSL OS.** WINTER. Five Dock RSL Auditorium 24/7, 8. SPRING. Market Town. Mon 30/9, Sat 5/10. Set up Sun 29/9. Meets 4th Wed, Douglas Hall, Corner Great North Rd and Fairlight St, Five Dock. Sec: Mrs K. Jones, 48 Wareemba St, Five Dock 2046, phone 713 8124.

**Hawkesbury Dis. OS.** SPRING. St Monica's Hall, Bourke St, Richmond. Sat 7/9, noon-6. Sun 8/9, 9-5.

Meets 2nd Tues. Sec: Mrs M. Clifford, 30 Dorothy St, Freemans Beach 2756, phone (045) 79 6194.

**Kuring-gai OS.** SPRING. Westfield Shoppingtown, Hornsby. Wed 28/8 - Sat 31/8. Meets 3rd Mon. Pymble Com. Hall. Sec: Mr R. Hood, 243 Sommersville Rd, Hornsby Heights, phone 476 2908.

**Lidcombe Hospital OS.** WINTER. Lower Rec. Hall, Lidcombe Hospital. Tues 30/7, 8. SPRING. Upper Rec. Hall, Fri 6/9, noon-5.30. Sat 7/9, 9-3.30. ANNUAL SHOW. Garden Court, Bankstown Shopping Square. Mon 9/9 to Sat 14/9. Meets 2nd Wed, Lower Rec. Hall at Hospital. Sec: Mrs S. Lovell, 17 Napoli St, Padstow 2212, phone 705 6785.

**Manly-Warringah OS.** SPRING. Mona Vale Community Hall. Fri 23/8 to 25/8, 2-8. Sat 8-8. Sun 9-4. Meets 4th Thurs, Dee Why Com. Centre, Fisher Rd. Sec: Mr R. Kazlauskas, PO Box 385, Dee Why 2099, phone 982 6924.

**North Shore OS.** WINTER. Neutral Bay Shopping Village. Wed 17/7 to Sat 20/7. Orchid Spectacular. Lemon Grove Shopping Centre, Mon 12/8 to Sat 17/8. SPRING. Forestway Shopping Centre. Wed 25/9 to Sat 28/9. Meets 1st Wed, Dougherty Hall, 7 Victor St, Chatswood. Venue is near Chatswood station. Sec: Mrs F. Bygrave, 24 Ross St, Gladesville 2111.

**Orchid SPECIES (NSW).** SPRING. Royal Botanic Gardens as part of 'Spring in the Gardens '85'. Glasshouse 10. Sat 12/10, noon-5, then to Fri 18/10, 10-5. Meets 3rd Wed, Castle Com. Centre. Sec: Mrs A. Madden, 114 Barons Cres, Hunters Hill 2110.

**Panania-East Hills RSL OS.** SPRING. Senior Citizens' Centre, Anderson Ave, Panania. Sat 14/9, 10-5. Meets 1st Tues except Dec and Jan. Panania-East Hills RSL Club. Sec: Mr A. Ravenscroft, 5 Penrose Ave, East Hills, phone 774 2287.

**Parramatta OS.** WINTER. Wentworthville Com. Hall, Darcy Rd on meeting night. SPRING. Stockland Mall, Merrylands. Mon 19/8 to Sat 24/8. Meets 4th Tues, Wentworthville Com. Centre. Sec: Mr G. Banks, 183 Windsor Rd, Northmead 2152, phone 639 4815.

**St George OS.** WINTER. Uniting Church Hall, Bay St, Rockdale. Tues 2/7 meeting night 8. SPRING. Same venue Sat 3/9. Visitors welcome to exhibit. Sec: Mrs J. Slattery, 12 Eddystone Rd, Bexley 2207, phone 50 7985.

**Southern Districts  
GREAT COMBINED SHOW**  
Westfield Shoppingtown, Hurstville  
Mon 5/8 to Sat 10/8. Set up Sun 4/8.  
Sec: Mr R. Edwards,  
114 Coonong Rd, Gympie Bay 2227, phone 525 9623.  
St George OS, Sydney OS and Cymbidium Club  
of Australia.

**Sutherland Shire OS.** WINTER. Sat 6/7, 11-6. Sun 7/7, 9-6. SPRING. Sat 5/10, 11-6. Sun 6/10, 9-6. Mon 7/10, 9-5. Meets 2nd Mon, Gympie Bowling Club, 699 Kingsway. Sec: Mrs G. Withers, 19 Davey Ave, Jannali 2226, phone 528 9045.



**Sydney OS. WINTER.** Thurs 13/6, 8. **SPRING.** Thurs 12/9, 8. Both at Remembrance Hall, 220 Lakemba St, Lakemba. Meets 2nd Tues. Sec: Ms B. Clare, 75 Quigg St, Lakemba 2195, phone 759 6166.

**Western Suburbs OS. SPRING.** Woodstock Com. Centre, Church St, Burwood. Sun 8/9, 11.30-5. Meets 2nd Tues, Woodstock Centre. Sec: Mr L. Gleeson, 87 Stoddart St, Lakemba 2159, phone 759 5948.

## NEWCASTLE AND CENTRAL COAST

**Newcastle Combined Societies. WINTER.** Garden City, Kotara. Wed 10/7 to Sat 13/7. **SPRING.** Same venue. Wed 25/9 to Fri 27/9. Sec: Mrs M. Parlour, 2 Kullaroo Rd, Charlestown 2290, phone (049) 43 7768.

**Newcastle OS. Mattara Spring Show.** St Andrew's Church Hall, Church St, Mayfield. Thurs 5/9, 1-6 to Sat 8/9, all 9.30-6. Meets 3rd Wed, Masonic Hall, Hanbury St, Mayfield. Sec: Mrs J. Blackwell, 114 Springfield Ave, Kotara South 2288, phone (049) 57 2992.

**ANOS Central Coast Group. SPRING.** Sat 31/8. Scout Hall, Gertrude Place, Gosford 10-5. Plants on sale. Meets 2nd Tues, Baptist Church Hall, York and Frederick Sts. Sec: Mrs D. Johnson, 158 Geoffrey Rd, Chittaway Point, phone (043) 88 1785.

**Boolaroo OS. SPRING.** Venue to be announced. Thurs 19/9 to Sat 21/9 shop hours. Meets Teralba Com. Hall, Anzac Pde on 1st Wed. Sec: Mrs J. Webster, 22 Alexander Pde, Charlestown 2290, phone (049) 43 2043.

**Gosford OS. WINTER.** Mon 1/7 to Sat 6/7. **SPRING.** Mon 9/9 to Sat 14/9. Both at Marketown, Gosford. Meets 4th Wed, Baptist Church Hall, York and Frederick Sts, East Gosford. Sec: Mrs V. Peck, PO Box 541, Gosford 2250, phone (043) 28 1485.

### OSNSW REGIONAL CONFERENCE AND SHOW

Hosted by Gosford Orchid Society

October 19 and 20

Hotel Florida, Terrigal

Enjoy the Central Coast.

Enquiries: PO Box 341, Gosford 2250

**ANOS Newcastle.** To be announced. Sec: Mr B. Maloney, 8 Linden Ave, Warners Bay. Pres: Mr J. McMillan, phone 43 0882.

**Gloucester OS.** To be announced. Sec: Mrs T. Littlewood, 42 Phillip St, Gloucester, phone (065) 58 1950. Meets 2nd Thurs, 15 Queen St.

**Great Lakes OS.** Display and Sale. Kindergarten Forster Primary School. Sat 8/6, Sun 9/6. **SPRING.** Same venue. Sat 5/10, 10-7. Sun 6/10, 9-7. Meets 2nd Tues at primary school. Sec: Mrs J. Kilpatrick, PO Box 273, Forster 2428, phone Bob Palmer (pres) 54 9953.

**Hastings River OS. SPRING.** CWA Hall, High St, Wauchope. Fri 20/9, noon-8. Sat 21/9, 9-6. Meets 2nd Fri, Uniting Church Hall. Sec: Mrs J. Lester, 11 King St, Wauchope 2446. Post Box 193, Wauchope.

**Maitland and Coalfields OS. SPRING.** Sharton Motors, High St, Maitland (opp. town hall) Thurs 12/9 to 14/9, Fri 9-9, Sat 9-6. Meets 2nd Thurs except Jan, Literary Inst., Banks St, East Maitland. Sec: Mr E. Hunt, 12 Windermere St, Lochinvar, phone (049) 30 7300.

**Manning River OS. SPRING.** Manning Mall. Mon 2/9 to Wed 4/9. Meets 1st Fri, Protestant Hall, Commerce and Louis Sts, Taree. Sec: Mr R. Zeller, PO Box 797, Taree 2430, phone (065) 53 1157.

**Morisset and Lakes OS. WINTER.** Wyong Plaza. Thurs 25/7 to Sat 24/8. Set up Wed 24/7, 6. **SPRING.** Charlestown Square. Wed 21/8 to Sat 24/8. Set up Tues 20/8, 6. Meets 2nd Tues, Charmhaven Com. Hall. Sec: Mr B. Jacobs, Lot 8 Warnervale Rd, Warnervale 2259, phone (043) 92 2702.

**Port Macquarie OS. SPRING.** Settlement City Shopping Complex. Thurs 29/8 to Sat 31/8. Meets Masonic Hall. Sec: Mr G. Parkes, PO Box 928, Port Macquarie 2444, phone (065) 83 3265.

**Tamworth OS. SPRING.** K. Mart Plaza, Peel St. Thurs 19/9 to Sat 21/9. Meets 3rd Wed, Continuing Education Centre, Brisbane St. Sec: Mrs M. Drewe, 13 Cohen St, Tamworth 2340, phone (067) 66 3316.

## NSW — SOUTH AND WEST

**Albury-Wodonga OS.** To be announced. Meets 1st Tues, Wodonga Civic Centre. Sec: Mr G. Milton, 165 Jones St, Albury 2640.

**Campbelltown OS. WINTER.** MacArthur Square Shopping Complex. Thurs 18/7 to Sat 20/7. **SPRING.** Thurs 19/9 to Sat 21/9. Meets 2nd Tues, Beverley Park Orthopaedic School, Rudd St, Campbelltown. Sec: Mr E. Fish, 10 Yarrangobilly St, Heckenberg 2168, phone 608 1672.

**Griffith OS. SPRING.** Wade High School. Sat 5/10. Sun 6/10, 10-5. Meets 1st Mon, Griffith Women's Club. Sec: Mrs B. Raphael, PO Box 1944, Griffith 2680, phone (069) 62 2201.

**Illawarra OS. WINTER.** Warrawong Shopping Centre. Thurs 18/7 to Sat 20/7. **SPRING.** Same venue. Thurs 29/8 to Sat 31/8. Meets 3rd Tues at Legacy House, Market St, Wollongong. Sec: Mr T. Bradford, 91 Edgeworth Ave, Kanahooka 2530, phone (042) 61 2260.

**Orchid Society of Canberra. SPRING.** Albert Hall, Commonwealth Ave in association with Hort. Society of Canberra. Sat 14/9, noon-5. Sun 15/9, 9-5. Meets 2nd Mon at Canberra Club, Civic Centre (opp. GPO). Sec: Dr B. Davies, 28 Ashburton Circuit, Kaleen, ACT 2617, phone (062) 41 2327.

**Sapphire Coast OS. WINTER.** Kalaru Nursery. Sat 25/8, 10-4. **SPRING.** Norm Honey Motors, Carp St, Bega. Fri 4/10 and Sat 5/10, 10-4. Meets last Thurs. Red Cross Rooms except Dec. Sec: Mrs M. Cochrane, 136 High St, Bega.

**Shoalhaven OS. WINTER.** Thurs 18/7, noon-8. **SPRING.** Fri 20/9, noon-8. Sat 21/9, 9.30-8. Both at Presbyterian Church Hall, Nowra. Meets 1st Mon, Presbyterian Hall. Sec: Mr S. Crowther, 4 Amber Place, Bomaderry 2541, phone (044) 21 2449.

**South Coast OS. WINTER.** Westfield Shopping town, Figtree. Thurs 11/7 to Sat 13/7. **SPRING.** Thurs 12/9 to Sat 14/9. Meets 1st Mon, Uniting Church Hall, Corrimal. Sec: Mr P. Irvine, 28 Kilbirnie Place, Figtree, phone (042) 28 6294.

**Southern Riviera OS. SPRING.** Civic Centre, Ulladulla. Sat 5/10, 10-5. Sun 6/10, 10-4. Meets 2nd Mon, Kendall Cottage. Sec: Mrs C. Key, PO Box 124, Milton 2538, phone 55 4011.

Wollongong Native OS. Sec: Mrs V. Stockton, 12 Deakin St, Oak Flats 2527.

## NSW NORTH COAST

### Far North Coast ORCHID CONFERENCE AND SHOW LISMORE

Thurs to Sat, July 11 to 13.

Conference Sec: PO Box 303, Casino 2470

Phone (066) 24 2316

ANOS North Coast Group. SPRING. Venue to be announced. 1st week in Sept. Meets 1st Thurs, Ballina High School. Sec: Mr G. Gramble, 14 Fischer St, Goonellabah, phone 24 1023.

Alstonville OS. SPRING. Catholic Hall, Main St, Alstonville. Sat 7/9, 8.30-5. Meets 2nd Wed, C. of E. Hall. Sec: Pam Convery, PO Box 51, Alstonville 2477, phone 87 4108.

Ballina OS. SPRING. Players Hall, Swift St. Thurs 12/9 set up. Fri 13/9 and Sat 14/9, 9-5. Meets 2 pm on 1st Sat of month at Ballina Hospital Com. Centre. Sec: Mr J. Hicks, 89 Swift St (PO Box 399), phone (06) 86 6331.

Byron OS. SPRING. Mullumbimby Fellowship Centre. Tentative dates Thurs 12/9 to Sat 14/9. Meetings alternate between Mullumbimby, Byron Bay and Bangalow. Sec: Mr E. King, PO Box 258, Mullumbimby 2482.

Casino OS. SPRING. RSL Hall, Canterbury St, Casino. Fri 27/9, 9-9. Sat 28/9, 9-4.30. Meets 4th Fri, Old Bowling Club House. Sec: Mrs N. Anderson, PO Box 303, Casino 2470, phone (066) 62 3685.

City of Lismore OS. SPRING. Cedar Room City Hall. Mon 9/9 to Wed 11/9, all 9-9. Thurs 12/9, 9-5.30. Meets 3rd Tues, Lismore Heights Bowling Club, High St. Sec: Mrs R. Muldoon, 21 Taylor Ave, Goonellabah 2480, phone (066) 24 1063.

Coffs Harbour OS. SPRING. Supper Room, Civic Centre. Fri 13/9 to Sun 15/9. Fri and Sat, 9-9. Sun, 9-3. Meets 1st Thurs, Cavanbah Hall. Sec: Mr S. Clemesha, Lot 6 Skinner Close, Avocado Heights, Woolgoolga 2456, phone (066) 53 6935.

Evans Head OS. SPRING. Woodburn Mem. Hall, Sat 21/9. Sun 22/9, 8-4.30 each day. Meets 3rd Thurs except Jan, CWA Clubrooms, Woodburn. Sec: Mrs B. Rose, 16 Cedar St, Evans Head 2473. A record show in 1984.

Grafton OS. SPRING. Fri 20/9 to Sun 22/9. Venue to be announced. Sec: Mr N. Skennar, PO Box 351, Grafton, phone (066) 42 3813. Meets 3rd Wed, except Sept and Jan, in Senior Citizens' Hall.

Northern Rivers Orchid Species Society. For details contact sec: Mrs B. Stephen, 129 Military Rd, Lismore 2480.

Tweed OS. For details contact sec: Mr D. Capner, Kiel Vale via Murwillumbah. Meets 3rd Thurs, CWA Rooms, phone (066) 72 1375.

## QUEENSLAND — BRISBANE AND VICINITY

Queensland OS. SPRING. Kelvin Grove High School. Fri 4/10 to Sun 6/10. Meets 2nd Mon. Sec: Mrs N. Parsons, Box 2002, GPO Brisbane 4001, phone 398 6031.

Aspley OS. SPRING. Community Hall, Edinburgh Castle. Sat 21/9. Sun 22/9. Meets 1st Thurs, 7.30. Day Group 3rd Thurs, 9 at Com. Hall, Edinburgh Castle Rd, Wavell Heights. Sec: Mrs J. Hall, PO Box 67, Aspley 4034.

Brisbane OS. Society Charity Show takes place 1st week in April unless Easter falls that week. Meets 4th Tues, Holy Trinity Church, Peterson St, Woolloongabba. Sec: Mrs P. Cotton, PO Box 94, Stones Corner 4210.

Blackwood OS. Sec: Mrs P. Crittendon, PO Box 94, Stones Corner 4120.

Caboolture OS. SPRING. RSL Hall, Bridie. Sat 26/10. Sun 27/10. Meets 1st Wed. Combined Services Hall, Caboolture. Sec: Mrs J. Male, PO Box 549, Caboolture 4510.

Craiglea OS. Sec: Mr M. Graimes, 21 Nundah St, Kedron.

Darling Downs Orchid Assoc. SPRING. Eagers Showroom, Margaret St, Toowoomba during Carnival of Flowers. Sat 21/9 to 28/9, to 9 except 22/9 and am only 28/9. Meets 3rd Thurs, Scout Hall, Ruthven St. Sec: Mrs S. Stone, Box 3216, Town Hall PO, Toowoomba 4350.

Eastern Dist. OS. SPRING. Sat 7/9. Sun 8/9. Guardian Angels Hall, Bay Tce, Wynnum. Meets same hall 4th Thurs. Sec: Mrs S. Crosby, 102 Grattan Tce, Manly 4179.

Glasshouse Country OS. No details.

Gold Coast OS. SPRING. Owen Park Showground, Queens St, Southport. Fri 30/8, Sat 31/8, both 9-9. Sun 1/9, 9-5. Meets 2nd Sun at 1.30, CSWD Hall, Connor St, Burleigh Heads. Sec: Mr K. Jones, PO Box 232, Burleigh Heads 4220.

Ipswich OS. Holds charity show in April. Meets 1st Wed in Humanities Building, Ipswich. Sec: Mrs G. Stumer, C/- PO Mt Crosby 4305.

John Oxley OS. WINTER. Auditorium Mt Coot-tha Gardens, Sat 27/7. Sun 28/7. See Brisbane's winter flowers. Meets Uniting Church Hall, Oxley Rd, Sherwood, 2nd Wed. Sec: Mrs J. Imray, PO Box 205, Corinda 4075.

Logan and Albert OS. Sec: Mrs F. Goeldner, PO Box 235, Beaudesert 4285.

Maroochydhore OS. SPRING. Senior Citizens' Hall, Maroochydhore. Fri 16/8, 9-7.30. Sun 18/8, 9-3. Meets 1st Tues for culture, 3rd Wed for business, Lutheran Hall. Sec: Mrs L. Rogers, PO Box 382, Maroochydhore 4558.

Maryborough OS. SPRING. St Paul's Mem. Hall, Fri 20/9, 9-9. Sat 21/9, 9-2.30. Meets 2nd Tues except Jan, TPI Hall, Sussex St. Sec: Mr V. Brigg, PO Box 389, Maryborough 4650.

Mt Coot-tha Day OS. Mini-show annually. Meets 1st Tues, 9.30 in Gardens Auditorium. Sec: Mrs M. Williams, PO Box 32, Paddington 4064.

Native OS of Queensland. This active society supports other shows. Meets 1st Mon, Bread House, 49 Gregory Tce, Brisbane. Sec: Mrs J. Crane, 17 Rylatt St, Indooroopilly 4068.

North Brisbane OS. Meets St Peter's C. of E. Hall, Toombul Rd, Northgate, 4th Thurs at 8, also 2nd Tues 9.30 for shift workers. Sec: Mrs M. Lysaght, phone 359 9453.

North Albert OS. SPRING. Olmac Toyota Showroom, Pacific Hwy, Springwood. Sat 27/8. Sun 28/8, 9-5. Meets 3rd Tues, Woodridge High School, Wembley



Rd. Sec: Mr N. Williams, PO Box 411, Woodridge 4114.

**North Coast OS. SPRING.** Civic Hall, Nambour. Thurs 5/9 to Sat 7/9. Meets 4th Mon, Band Hall, Daniel St, Nambour. Sec: Mrs J. McKane, PO Box 4560, phone (071) 41 3079. Plant sale at show.

**Orchid Species Society. SPRING.** Auditorium, Mt Coot-tha Gardens, Sat 14/9, 9-5. Sun 15/9, 9-4. Meets 3rd Mon, Mt Coot-tha. Sec: Mr A. Robinson, PO Box 485, Toowong 4066.

**Pine River OS. Sec:** Mrs D. Marques, PO Box 229, Strathpine 4500.

**Redcliffe OS.** Holds April show. Meets 2nd Wed, CWA Hall, Woody Point. Sec: Mr A. Wrigley, PO Box 51, Margate 4019.

**Southport OS. DISPLAY.** Sundale Shopping Centre, 20/9 and 21/9. **SHOW.** West Burleigh Shopping Centre, Thurs 17/10 to 19/10 in Tropicarnival Week. Meets 1st Wed, except Jan, at Police Citizens' Youth Centre, Ashmore. Sec: Mrs D. Worley, PO Box 5336, Gold Coast Mail Centre, Bundall 4217.

**Sunshine Coast OS. SPRING (non-comp).** Civic Cultural Centre, Caloundra. Sat 28/9 and Sun 29/9. Meets 3rd Fri, CCSA Hall, Nutley St. Sec: Mrs A. Wain, PO Box 279, Caloundra 4551.

**Toowoomba OS. SPRING.** Myer rooftop during Carnival of Flowers. Sat 21/9 to Sat 28/9. Shop hours except Sun, 10-5. Meets 4th Fri, Red Cross Hall. Sec: Mr F. Simpson, 46 Wentworth St, Toowoomba 4350, phone 35 1948.

**Warwick OS.** Woolworth's Rose City probably in week beginning Mon 16/9. Meets 2nd Mon in members' homes. Sec: Mr R. Pohlman, 29 Myrtle Ave, Warwick 4350, phone (076) 61 4979.

**West Brisbane OS. SPRING SPECTACULAR.** Metro Ford Showrooms, Leichhardt St, Spring Hill. Sat 7/9, Sun 8/9, 9-5. Meets 4th Wed, Uniting Church Hall, Simpsons Rd, Bardon. Sec: Mr R. Ozanne, 105 Bowman Pde, Bardon 4065, phone 38 1240. Part proceeds to charity.

**West Moreton Orchid Group. SPRING.** St Paul's Mem. Hall, Limestone St, Ipswich. Thurs 19 and Fri 20/9, 8-9. Sat 21/9, 8-noon. Meets 4th Fri, Humanities Building, South St, Ipswich. Sec: Mrs C. Rush, PO Box 101, Ipswich 4305.

**Wynnum-Manly OS. SPRING.** RSL Mem. Hall, 184 Melville Tce, Sat 28/9 and Sun 29/9. Meets above hall 3rd Wed. Sec: Mrs E. Riggall, PO Box 91, Manly 4179. Holds a morning meeting same hall 3rd Mon, 9.

## NORTH QUEENSLAND

**Atherton Tableland OS.** Usually takes part in combined society show first weekend in Oct at Table Tennis Centre, Townsville. Meets 1st Tues except Dec and Jan, CWA Hall, Jack St, Atherton. Sec: Mr J. Mackin, PO Box 427, Atherton 4883.

**Ayr OS. SHOW.** Coutts Mall. Thurs 10/10 and Fri 11/10 in conjunction with Ayr Water Festival. Meets CWA Halls alternating Ayr and Home Hill on 1st Thurs. Sec: Mrs A. Tait, PO Box 412, Ayr 4807.

**Bowen OS.** Show details contact Sec: Mr M. Gordon, PO Box 726, Bowen 4505, phone 86 2846. Meets 1st Thurs except Jan at RSL Hall, Bowen.

**Boyne Tannum OS. Sec:** Mr P. Tidbury, 17 Swains Court, Boyne Island 4680.

**Bundaberg OS. Sec:** Mr A. Bennett, PO Box 1173, Bundaberg 4670.

**Callide Valley OS. Sec:** Mrs M. Saal, 9 Kariboe St, Biloela 4715. Meets 1st Fri, Primary School, Biloela, except Dec and Jan.

**Capricorn OS.** Holds autumn show. Meets Orchid Grove Hall, Alexandra St, North Rockhampton 2nd Fri, except Jan. Sec: Mrs L. McMurdo, PO Box 697, Rockhampton 4700.

**Charters Towers OS. Sec:** PO Box 126, Charters Towers 4820.

**Chinchilla Orchid Assoc. SPRING.** Chinchilla Civic Centre. Thurs 5/9 to Sat 7/9. 3rd Mon except Dec and Jan in RSL Room, Heeney St. Sec: Mrs D. Doherty, PO Box 340, Chinchilla 4413.

**Emerald OS. SPRING.** Village Shopping Centre. Thurs 26/9 to Sat 28/9. Meets St Luke's Hall, Ruby St in summer months 2nd Thurs, 7.30. In June, July, Aug, 1.30 Sat. Sec: Mrs C. Coombs, 32 Esmond St, Emerald 4720.

**Gladstone OS. SPRING.** Kin Kora Mall. Thurs 12/9 to Sat 14/9. Meets 1st Wed, Bowls Club Hall, Ferris St. Sec: Mrs N. Merritt, PO Box 867, Gladstone 4680.

**Gympie OS. Sec:** Mrs A. Maher, PO Box 52, Gympie 4570.

**Hervey Hay OS. Sec:** Mr G. Cook, Maryborough, RMS 4655.

**Innisfail OS. Agricultural and Pastoral Show Orchid Display.** Pease Park. Thurs 11/7, 1-8. Fri 12/7, 9-8. Meets 1st Mon except Jan, CWA Rooms. Sec: Mrs J. Matthews, PO Box 475, Innisfail 4860. Field day last weekend Aug.

**Mackay OS.** Holds autumn show. Meets 3rd Thurs, Christian Bros Assembly Hall, Gregory St. Sec: Mrs J. Gray, PO Box 776, Mackay 4740, phone (079) 42 4618.

**Proserpine OS.** Meets 4th Tues, CWA Hall, Faust St. Sec: Mrs V. Stevenson, PO Box 55, Proserpine 4800.

**Rockhampton OS. SPRING.** St Paul's Cathedral Hall. Possibly 3rd weekend Sept. Meets 4th Tues, Uniting Church Hall, Musgrave St, North Rockhampton. Sec: Mr B. Maxwell, PO Box 5949, Rockhampton Mail Centre, Rockhampton 4702.

**Townsville District Orchid Assoc.** Holds autumn show. Meets 3rd Tues, OES Hall, Ingham Rd, West End, Townsville. Sec: Mr W. Summers, PO Box 663, Hermit Park 4812.

**Tully OS. SPRING.** TCC Centre, Butler St. Fri 13/9, 9-9. Sat 14/9, 9-noon. Meets 2nd Mon, CWA Hall, Plump St. Sec: Mrs E. Gourley, PO Box 648, Tully 4854.

## VICTORIA — MELBOURNE AREA

**Victorian Orchid Club.** Winter and Spring Show details apply sec: Mrs I. Hutchins, 37 Elliot St, Mordialloc 3195. Meets 3rd Mon at St. John's Church Hall, cnr Orrong and Toorak Rds.

**ANOS Victorian Group. SPRING.** National Herbarium, Birdwood Ave, South Yarra. Sat 5/10, 10-8. Sun 6/10, 10-4. Meets 1st Fri except Jan and Mar at National Herbarium. Sec: Mr D. Smith, 6 Beacon Court, Lower Templestowe 3107.

**Maribyrnong OS. WINTER FESTIVAL.** Airport West Shoppingtown. Mon 29/7 to Sat 3/8. **SPRING.** Old Shire Hall, Keilor. Sat 21/9, 9-8. 22/9, 10-4. Meets

2nd Tues, Old Shire Hall, Calder Hwy, Keilor. Sec: Mr G. Campbell, 'Kyle', Taylors Rd, Mt Macedon 3441.

**Maroondah OS. SPRING.** Vermont High School, Morack Rd. Sat 5/10, 10-6. Sun 6/10, 10-4.30. Meets Vermont High, 3rd Fri. Dec 2nd Fri, not Jan. Sec: Mrs S. Campbell, 59 Anthony Drive, Chirnside Park 3116.

**Melbourne Eastern OS. SPRING.** 'World of Orchids'. Oakleigh Mechanics Institute. Thurs, 10/10 to Sat, 12/10, 9-9. Sun 13/10, 10-5. Sec: Mr B. McHutchison, 1 Highfield Rd, Chadstone 3148, phone 277 1995. Meets last Mon except Dec, 2nd Mon at St John's Hall, Camberwell.

**Mornington Peninsula OS. SPRING.** Karingal High School, Ashley Ave, Frankston. Sat 12/10, 10-8. Sun 13/10, 10-5. Meets 4th Fri except Dec. Sec: Dr J. Perry, 71 Mundy St, Mentone 3194.

**Orchid Species Society.** Nunawading Hort. Centre, Jolimont Rd, Forest Hill. Sat 7/9, 10-6. Sun 8/9, 10-5. Non-competitive. Meets 1st Thurs at Nunawading Hort. Centre. Sec: Miss J. Burke, 4 Northam Rd, East Bentleigh 3165.

**Ringwood OS. SPRING FESTIVAL.** Eastland Shopping Centre. Mon 30/9 to Sat 5/10. Meets 1st Tues except Jan at Maroondah High Com. Centre. Sec: Mrs L. Duffield, 28 Dudley St, Mitcham 3132.

**Warringal OS. SPRING.** Possibly mid-Oct, Heidelberg Tech. High. Refer Sept AOR. Meets 3rd Wed, Masonic Hall, Heidelberg. Sec: Mrs M. Murray, 60 McArthur Rd, East Ivanhoe 3079.

## VICTORIAN COUNTRY

**Ararat OS. SPRING.** Ararat Town Hall. Fri 11/10, Sat 12/10 and Sun 13/10. All 9.30-6. Meets 2nd Fri, Church of Christ Hall, High St. Sec: Mr R. Selwood, Picnic Rd, Ararat 3377.

**Geelong Orchid Club. SPRING.** Centenary Hall, Cox's Rd, Norlane. Sat 26/10, 1-9. Sun 27/10, 10-6. Orchids and foliage plants. Meets 1st Thurs, St John's Hall (except Jan). Sec: Mr W. Gregg, 129 Sunset Strip, Ocean Grove 3226.

**Gippsland OS. WINTER.** St Marys Church Hall, Sale. Sat 31/8 and Sun 1/9, 10-8. **SPRING.** Civic Centre, Traralgon. Sat 5/10 and Sun 6/10, 10-8. Meets 2nd Mon, Continuing Education Centre, Sale. Sec: Mr H. Jacobs, PO Box 11, Stratford 3862.

**Goulburn Valley OS. "SHEPTEMBER" SPRING SHOW.** Shepparton Civic Centre Supper Room. Sat 21/9, 2-6. Sun 22/9, 10-5. Meets 1st Thurs, RSL Clubrooms. Sec: Mr S. Barton, PO Box 387, Shepparton 3630. Show co-ordinator: Mrs M. Miles, phone (058) 21 1705.

**Hamilton OS. SPRING.** Slorach Auto Showroom, Brown St. Fri 4/10, noon-6. Meets 4th Wed except Jan, St Andrew's Hall, Hamilton. Sec: Mrs J. Botterill, Strone St, Coleraine 3315.

**Horsham OS. DISPLAY.** Horsham Agriculture Show. Wed 2/10 and Thurs 3/10. Meets 3rd Thurs, Uniting Church Hall, Roberts Ave. Sec: Mr H. Pohlner, PO Box 183, Dimboola 3414, phone (053) 89 1747.

**Midland OS. ANNUAL SHOW.** Library Hall, Barker St, Castlemaine. Fri 25/10, noon-9. Sat 26/10, 10-9. Sun 27/10, 10-4.45. Meets 2nd Tues, RSL Hall, Castlemaine. Sec: Mrs J. McEwan, PO Box 264, Castlemaine 3450.

**Sunraysia OS. SPRING.** Yugoslav Hall, Deakin Ave, Mildura. Fri 20/9, 10-9. Sat 21/9, 10-6. Sun 22/9, 10-5. Meets 2nd Tues, Special Education Unit, 13th St. Sec: Mrs J. Ashworth, PO Box 1818, Mildura 3500.

## SOUTH AUSTRALIA

**Orchid Club of SA. SPRING FESTIVAL.** Walter Duncan Hall, Wayville Showgrounds in conjunction with Royal Adelaide Show. Fri 30/8 to Sat 7/9. Featuring \$1,000 prize for champion. Sec: Mr G. Heylen, 5 Richmond Ave, Prospect 5082, phone 44 4255. Meets 1st Thurs, Aust. Mineral Foundation.

**Gawler OS. WINTER. TAFE Auditorium, Gawler.** July 20-21. **SPRING.** Elizabeth City Shopping Centre 30/9 to 5/10. Meets 2nd Thurs, Elderly Citizens' Centre. Sec: Mrs L. Howard, 24 Raner St, Elizabeth Park 5112.

**Native Orchid Society of SA. SPRING.** Goodwood Orphanage, Goodwood Rd, Goodwood. Sept 14 and 15. Meets 4th Tues except Jan, St Matthew's Hall, Bridge St, Kensington. Sec: Mr W. Harris, PO Box 565, Unley 5061.

**Northern and Eastern Dis OS. WINTER.** St Phillip's Parish Hall, Galway Ave, Broadview. Fri 19/7 and Sat 20/7. **SPRING.** Same venue. Thurs 5/9 to Sat 7/9. Both shows 10-9 daily. Meets 3rd Thurs, St Philip's Hall. Sec: Mr J. Keen, 22 Campbell St, Oaklands Park 5046, phone (08) 296 4476.

**Port Augusta OC. Cooina Hall, Commercial Rd. SPRING.** Sat 7/9, opens 12.30. Sun 8/9. Meets 4th Wed, Dept. Com. Welfare Building, Alamein Rd. Sec: Ms D. Hunter, PO Box 1752, Port Augusta 5700.

**Port Lincoln OC. SPRING.** CWA Hall. Fri 20/9, 10-5. Sat 21/9, 10-4. Meets last Fri except Dec and Jan, Eyre Peninsula Community College. Sec: Mr K. Castley, PO Box 1335, Port Lincoln 5606.

**Port Pirie OC.** New club, visitors and speakers welcome. Meets 3rd Fri, Dept. Community Welfare. Sec: Mr B. Worden, 6 Eyre Rd, Crystal Brook 5523.

**Riverland OS. ANNUAL DISPLAY.** Waikerie Institute. Sat 8/9, 11-5. Meets 2nd Sun, 2, CWA Hall, Kokoda Tce, Loxton. Sec: Mrs B. Haynes, PO Box 200, Renmark 5341.

**SA Orchidaceous Society. WINTER.** Thebarton Town Hall Sat 27/7 and Sun 28/7. **SPRING.** Tea Tree Plaza. Mon 23/9 to Sat 28/9. Meets 3rd Wed, Thebarton Assembly Hall, South Rd, Torrensview. Sec: Mrs E. Shawyer, 60 Balfour St, Nailsworth 5083.

**South Coast OS. WINTER.** Colonades Shopping Centre. Mon 22/7 to Sat 27/7. **SPRING.** Same venue Mon 23/9 to Sat 28/9. Meets 2nd Tues except Jan, Lutheran Church Hall, Windsong Court, Christies Downs. Sec: Mrs S. Stirling, 5 Fulton St, Glenelg North 5045.

**Whyalla OC. WINTER.** Westlands Mall. Wed 24/7 to Sat 27/7. **SPRING.** Same venue. Wed 18/9 to Sat 21/9. Meets 3rd Wed at Trades Hall, Hockey St. Visitors welcome. Speakers offered accommodation. Contact sec: Mrs S. Sault, PO Box 566, Whyalla 5600.

## TASMANIA

**Tasmanian OS. SPRING.** Town Hall, Macquarie St, Hobart. Fri 27/9, 1-9. Sat 28/9, 9-9. Sun 29/9, 9-5.



Meets 4th Mon, Legacy House, 159 Macquarie St. Sec: Mr F. Smith, 11 Warren Court, Howrah 7018, phone (002) 44 1555.

Devonport OS. SPRING. Spreyton Hall, Spreyton. Fri 4/10 to Sun 6/10. Meets Lyons Mem. Library, Fenton St, Devonport. Sec: Gwen Smith, RSD 793, Kindred 7310.

Launceston OS. SPRING. Probably Launceston War Mem. Hall on Fri 11/10, 2.30-8. Sat 12/10, 10-8. Sun 13/10, 10-5. Meets 3rd Tues but 2nd Tues in Dec, no meeting Jan, War Mem. Hall. Sec: Mrs B. Calverley, 24 Summerdale Grove, Launceston 7250.

Orchid Society of North-West Tasmania. SPRING. Burnie Civic Centre. Fri 11/10 and Sat 12/10, both 9-9. Sun 13/10, 10-4. Meets 1st Wed except Jan, Hellyer College, Mooreville Rd, Burnie. Sec: Mrs E. O'Halloran, PO Box 332, Burnie 7320, phone (004) 42 3730.

Scottsdale OS. Possibly last weekend Sept. Sec: Mrs E. Rainbow, Nambowia 7252. Meets 3rd Thurs at Kendells' Hotel.

## WESTERN AUSTRALIA

Orchid Society of WA. WINTER. Garden City Shopping Centre, 125 Bislely St, Booragoon. Wed 10/7 to Sat 13/7. SPRING. Same venue. Wed 18/9 to Sat 21/9. Meets 4th Fri, Institute of Engineers Hall, 712 Murray St, West Perth. Sec: Mr D. Morphet, Lot 1 Gngara Rd, Henley Brook 6055, phone 296 4475.

Albany OS. For show details contact sec: Mr B. Newman, PO Box 13, Albany 6330, phone (098) 41 3383. Meets 4th Wed, Education Resources Centre, Serpentine Rd.

Bunbury OS. For show details contact Sec: Mr P.R. Chalmers, 11 Heppingstone Rd, Brunswick Junction 6224. Meets 1st Tues, Walker Mem. Hall, Oakley St, phone (087) 26 1043.

Melville OS. WINTER. Roy Edinger Centre, Stock Rd, Palmyra. Sat 20/7, 1-7. Sun 21/7, 9.30-4.30. SPRING. Same venue. Sat 31/8. Sun 1/9. Hours as winter show. Meets 2nd Thurs, Roy Edinger Centre. Sec: Mrs C. Sullivan, PO Box 53, Melville 6156.

Northern Dis. OS. WINTER. Mirrabooka Shopping Centre. Thurs 1/8 to Sat 3/8. SPRING. Karrinyup. Thurs 19/9 to Sat 21/9. Meets 4th Mon, Alf Faulkner Hall, cnr Mary Cres and Ivanhoe St, Eden Mill. Sec: Mr N. Risbey, PO Box 190, Osborne Park 6017, phone 445 1677.

Native Orchid Study and Conservation Group. Meets Lecture Theatre, Kings Park Board, West Perth on 3rd Wed. Sec: Mrs M. Pickersgill, 31 Shearwater Way, Gosnells 6110, phone 398 3578.

Wanneroo OS. Meets lesser hall, Wanneroo Civic Centre on 3rd Thurs. Sec: Mr R. Stapleton, 11 Chryostom St, North Beach 6020, phone 447 6821.

## NORTHERN TERRITORY

Orchid Society of the NT. Display at Royal Darwin Show, July 25 to July 27. Meets 3rd Mon, Alawa Com. Hall, Lakeside Drive, Alawa. Sec: Mrs M. von Murant, PO Box 38493, Winnellie 5789.

“Orchids for us are medicinal through the gracious charm of their flowers — they are good for the soul”. *Oakes Ames.*

# Catalogues Received

**Keith's Nursery.** The April list has some interesting dendrobium crosses, some mini-*oncidiums* and a huge range of *cattleyas*, plus many flowering-size species. A weakness is that too many clones are not registered and the two parents are not bracketed in most cases where three names are given. You'll find plenty to choose. Send 55¢ stamp for list and Beall's *cattleya* catalogue.

**Nesbitt Nursery.** Australian terrestrial orchid list has full information for successful culture. Send SAE to 18 Cambridge Street, Vale Park 5081.

**Mandurang Orchid Nursery.** Good range of all types of *cymbidiums* from flasks to flowering size. SAE to Tannery Lane, Mandurang, 3551.

**Adelaide Orchids.** Supplementary list contains many *cymbidium* flasks, also back-bulbs. Also *zygotelum* crosses and cluster *cattleyas* in flask. PO Box 1, O'Halloran Hill 5158.

**Humptybong Nursery.** March supplement features good *cattleya* mericlones in two and three-plant flask, including two desirable *Slc*. Hazel Boyd clones. Also in small pots. Some *minicym*s. SAE: Humptybong Orchid Nursery, 38 Collins Street, Woody Point 4019.

**Orchid Productions.** Flasks only. Promising native crosses and some unusual exotics. SAE to PO Box 102, Forestville 2087.

**Valley Orchids.** Huge range of all types of *cymbidiums* from flasks to flowering. Well illustrated in colour. Free. Apply PO Box 220, Morphet Vale 5162.

**Petra Orchids.** *Dendrobium* and *cattleya* flasks plus a few good *vandaceous*, all at reasonable prices. SAE to PO Box 129, Townsville 4810.

“The concentrated romance, mystery and tragedy built into the story of orchid collecting are rarely considered when we enter a greenhouse to admire for a few fleeting minutes the strange beauty of orchid flowers”. *Oakes Ames.*

# • ORCHID SOCIETY CHANGES •

## **New at Noosa**

The newly-formed Noosa and District Orchid and Foliage Society has not been slow in putting on a public orchid display. This was in the School of Arts, Eumundi on May 18. AOR looks forward to receiving more news from Noosa.

## **ANOS Central Coast Group**

Mr Alan Peck is the new president of the group. He follows on from a very successful term by Mr Laurie Jarvis. Secretary is still Mrs Dallas Johnson who has made a great success of the job for several years. Her address is 158 Geoffrey Road, Chittaway Point 2259. Phone (043) 88 1785. The group meets second Tuesday of the month at the Baptist Church Hall, York and Frederick Streets, East Gosford.

## **Wollongong Native Society**

The Wollongong and District Native Orchid Society has a new secretary. All enquiries should now be directed to Mrs V.A. Stockton, 12 Deakin Street, Oak Flats 2527. Phone (042) 56 4228. This active society meets on the second Tuesday of the month in the meeting room of the Wollongong Town Hall.

## **Illawarra OS Changes Venue**

The Illawarra District Orchid Society now holds its meetings at a new venue, the Legacy House Hall, Market Street, Wollongong. Entrance is on the eastern side of Legacy House via the side door. The society meets on the third Tuesday of the month, commencing 7.45 pm. Enquiries to the secretary, Mr T. Bradford, 91 Edgeworth Avenue, Kanahooka 2530.

## **New Venue for Lismore**

The City of Lismore Orchid Society now meets at the Lismore Heights Bowling Club, High Street. Meeting night is the third Wednesday.

## **New Secretary for FNCOC**

The Far North Coast Orchid Council now has Mr J. Anderson as honorary secretary. The council now includes nine

very active societies and is sufficiently strong to launch a full-scale orchid conference. This is being held at Lismore from Wednesday, July 10 to Saturday, July 13. Enquiries should be directed to Mr Anderson, PO Box 303, Casino 2470.

## **Riverland OS**

Mrs Brenda Haynes is now secretary of the Riverland Orchid Society. The address for mail is PO Box 200, Renmark, South Australia 5341. Phone number is (085) 86 6189.

## **Tassie's New President**

Mr Gerry Reid is the new president of the Tasmanian Orchid Society. He previously served a three-year term. This included the time of the Sixth Australian

## **Romance at Griffith**

Attractive Ruth Webster of Griffith OS has announced her engagement and did not stand for re-election as secretary. There is no doubt that Griffith's loss is a lucky man's gain, Mrs Binnie Raphael has again taken over as secretary and may be contacted by writing to PO Box 1944, Griffith, NSW 2680.

Don Beatie is once again president. The society meets on the first Monday of the month at Griffith Women's Club, Wakaden Street at 8 pm. This year's Spring Show is to be held on October 5 and 6 in the Wade High School Hall.

## **New Secretary at North Shore**

Mrs Faye Bygrave of 24 Ross Street, Gladesville 2111 is now secretary of North Shore OS. Mr Garrie Bromley is once again president and Mr Reg Trenerry moves into his 27th year as treasurer. The society meets on the first Wednesday of the month at Dougherty Hall, 5 Victor Street, Chatswood and there is always a good display of orchids.



## *Fine Show at Townsville*

The first North Queensland Autumn Show was held by the Townsville Orchid Society in the Townsville City Council Administration Building on March 22, 23 and 24.

The Townsville Orchid Society had not held an autumn orchid show for the past nine years owing to the decline in interest in the hardcane dendrobiums which flower profusely at this time of year. However these autumn-flowering plants have become very popular once more during the last few years, hence the decision was made to stage another autumn show.

For the first time the Townsville Orchid Society invited other orchid societies and horticultural clubs of North Queensland to join them in this autumn display. A separate large area adjacent to the display hall was set up so that members could sell their plants. A percentage of these sales is given to the orchid society.

With the large support given by the Townsville media, i.e. the radio, local newspapers and television, and the support given by the society's members and the fellow societies, the show was a great success and in fact financially, the most successful yet.

The Grand Champion Orchid of the show was an outstanding plant of *Aerides odoratom* var. *lawrenceae* flowered by Mick and Thelma Keith of Keith's Nursery. This plant received an Award of Distinction in the previous year. The Reserve Champion was won by Mrs Dulcie Regattieri of the Ayr Orchid Society with a beautiful intermediate dendrobium named *D. Darcie Mikami*. It was very pleasing to all that not only the Reserve Champion but other first prizes went to Ayr and Charters Towers Orchid Society with Mrs Galea of Charters Towers taking out the Champion Phalaenanth Dendrobium award.

The pulling down of the show was done in record time owing to the genuine helpful enthusiasm of everyone present. The out-of-town societies had to travel some distances with their treasured orchid plants and props. Townsville Orchid Society members much appreciated this and tried to help wherever possible thus creating a friendly togetherness between societies.

The Townsville Orchid Society is proud to announce that they are now owners of their own meeting hall. The building where our monthly meetings have been held for many years was previously owned by a sporting club. It was offered to our society when the owners decided to sell. New furniture has been bought and we will in future hold not only our meetings but other social events there. We have all worked hard over the years and can now see a reward for our efforts. Never again will we have to move as we now have a Townsville Orchid Society-owned home.

## ORCHIDS AUSTRALIA '86

# An Exciting Pre-Conference Tour

Kangaroo Island was discovered in 1802 by Matthew Flinders during his voyage around Australia and he mapped the northern coast of the island. He was able to replenish his fresh food supply from some of the numerous kangaroos and also to refill his water casks, and when he met the French explorer Nicholas Baudin in Encounter Bay shortly after, he was able to, not only exchange maps but also to advise him where he could re-provision. This French captain later circumnavigated the island and many of the place names on the island's south and west coasts are reminders of this visit.

In the ensuing years there were sporadic visits by American sealers, the first permanent settlers were to arrive years later and were a mixture of convicts who had escaped from the penal colony of Tasmania and a few sealers. These adventurers found no aboriginal population on the island as the straits between Kangaroo Island and the mainland were too rough for the frail boats of the mainland tribes, who looked across at the remote island which they regarded as a place of mystery.

The first official settlement came in 1836 when Mr Stephens, the first manager of the South Australian Company, arrived on the ship 'The Duke of York'. He found that the island was not suitable for agriculture due to a lack of permanent water, together with soil deficiencies inhibiting both crops and pastoral pursuits. It has only been in latter years that, due to Commonwealth agricultural research, fertility has been improved by the addition of various chemicals to the land.

Consequently, there has been low levels of population on the island and much of the landscape remains in its original condition.

Our tour which will last for three days, will fly you to Kingscote, the main island town, and then by coach to Linnett's Island

Club, which nestles on the shores of American River and boasts all modern facilities such as swimming pools, sauna and spa, tennis courts, terrace drinks bar, indoor and outdoor meals, fishing excursions and activities in the games room — if you can stand the pace.

A full day-trip by bus brings you to Flinders' Chase Sanctuary, a wildlife reserve at the opposite end of the island. Here a hamper lunch will be provided whilst you inspect the local flora and fauna. The park abounds with terrestrial orchids. Australian animals, including kangaroos, wallabies, emus, Cape Barren geese and koalas inhabit the park in large numbers and all are tame enough to be hand-fed. Peacocks have also established a colony there.

You visit the picturesque Cape de Correche Lighthouse, one of many that dot the treacherous and rugged southern coastline of Kangaroo Island, swept by the mighty Southern Ocean with no land south until the Antarctic region is reached. Many ships have been wrecked along this coast over the years.

Another delightful day will be spent on an 'orchid walkabout' under the guidance of a famous authority on the island's wonderful terrestrial orchids. She will share with you the thrill of seeing the best displays of these orchids both in the parks and on private property, growing in their natural environment. Outdoor picnic lunch will be provided.

The exceptional features of the South Coast will be explored on the final day including the seals' colony, in their natural surroundings, at Seal Bay, a conducted tour to the Kelly Hill Caves followed by the very interesting return to the mainland by coach crossing the strait by ferry to Cape Jervis and travelling along some of South Australia's most beautiful coastline back to Adelaide.

Don't miss this tour.

*Neil Christoph, Tours Organiser.*



## ORCHIDS AUSTRALIA '86

### Registration Fees Set!

Preparations for this international orchid conference to be held in Adelaide, South Australia from September 16, 1986, are well advanced.

It is the policy of the host society — The Orchid Club of South Australia Inc, that the true success of any conference is not measured by the money made from it but by the magnitude of participation and pleasure derived by orchid enthusiasts. This is the reason the conference committee has set a fee that is particularly good value by any standards and it is expected that all local enthusiasts as well as visitors, will find registration just too good a value to resist.

The line-up of speakers for Orchids Australia '86 contains so many world-renowned orchid personalities that it almost rivals a world orchid conference in this department. Only registrants will be allowed to attend lectures.

The opening functions of the conference include a "bubbly" show preview followed by a dinner for all registrants. Costs of these functions are included in registration.

The conference proceedings publication will be a hard-cover book of over 100 pages and will include 16 pages of colour. This book is included in registration although dual registration allows for only one book per couple.

Admission to the conference show and the special stamp dedication ceremony are free to registrants.

The conference banquet — to be held on the Saturday night — not as is usually the case at the end of the conference; the "Aussie Night", a special night not to be missed; the Barossa Valley wineries day tour; the day-tour visit to "Yabbie Town" where participants will have a lunch of this popular Australian delicacy; the orchid bush walks organised by the members of the Native Orchid Society of South Australia, will all be available to registrants only. Many other registrants' extras could be

listed including the snazzy conference badge depicting the conference logo (almost ready for release when this report went to press); the satchels, promotional gifts, preferential accommodation and so on.

The price of registration is only Aust\$55 single and \$90 double.

Early registration is strongly advised. We will not be adding a surcharge for late registration as we have a very real way of encouraging early payment. Probably one of the most popular functions will be the registrants' dinner on opening night which will feature an after-dinner speaker on a general orchid subject. The idea behind this dinner is to give registrants the opportunity to meet old and new friends in a fairly informal atmosphere over a much longer period than is generally afforded by the usual cocktail party.

There is a limit to the number that can be included in this opening dinner and selection will be made strictly in order of receipt of registration fees.

Simply — register early and ensure that you will not miss out on this most-important event. Registrations can be received from now onwards. If you wish to register or just have your name and address added to our mailing list send printed name and address to Orchids Australia '86, Conference Secretary, Margaret Hewitt, GPO Box 730, Adelaide 5001 Australia.

*Syd Monkhouse, president.*

### Top Lecturers Available

Orchids Australia '86 can provide a boost to programmes for club meetings throughout the country during September and October, 1986.

Sixteen very capable world orchid authorities from overseas will provide lectures at Orchids Australia '86 from September 16, 1986.

Many of these personalities will be touring Australia prior to and after the confer-

## ORCHIDS AUSTRALIA '86

ence and in most cases they would be delighted to lecture to orchid clubs. I am preparing a listing of speakers available.

Invitations forwarded to me will be communicated to those concerned but, as it will be necessary for the "talk tours" to be slotted in to rather tight timing schedules it will certainly help to receive early notice. It is preferable that all negotiations be channelled through my office to avoid overlapping schedules, etc.

As an example of the wealth of interesting material that will be available I quote:—

"During my stay in Australia I would like to do a series of five lectures to the different orchid societies and clubs and the series would be as follows:—

1. Himalayan Jewel Orchids and How to Grow Them.
2. Indian Paphiopedilums and Their Varieties.
3. Himalayan Dendrobiums and How to Grow Them.
4. Miniature Himalayan Orchids.
5. Natural Habitats of Himalayan Orchids.

All talks will last for about 30 minutes and will be accompanied by a slide show.

Sincerely, Udai C. Pradhan, Kalimpong, Darjeeling District, India."

I am sure many orchid societies will wish to avail themselves of this unique opportunity to entertain and listen to, orchidists of Mr Pradhan's calibre.

Enquiries to Syd Monkhouse, Programme Organiser, PO Box 1, O'Halloran Hill, South Australia 5158.

## \$1,000 for Champion

The Champion Orchid of Australia is to receive a \$1,000 prize at the Orchid Club of South Australia's Spring Show 1985.

The appointment of the Spring Show of the Orchid Club of South Australia as a feature attraction of the Royal Show has assured that it is the greatest orchid display annually in the country. Occupying an area of 1,500 square metres it will be staged in

the Floricultural Pavilion at the Adelaide Royal Show from August 30 to September 7, 1985. The theme will be "Orchids in the Wild West" — an unusual challenge that promises to become our most striking exhibition to this time.

Sections of the show will depict "The Nevada Desert"; a "Red Indian Village"; "The Rockies" including an old mountain gold mine; "Fort Orchid" in the centre of the "Texas" section and this separated from "Old Mexico" by a diminutive "Rio Grande". Broken-down wagons, a windmill, Tombstone City, a mountain and a large "sandstone" butte are included in the basic plans. SAS Channel 10 will telecast their "Touch of Elegance" programme daily for one hour from the orchid show and other features of animation will include performances by a local square-dance group and a top country and western band.

With prospects of up to 400,000 people viewing the orchid show it is appropriate that we have the first Australian Champion Orchid.

The status of the prize demands the largest value yet and through the generosity of the ANZ Banking Group and the Orchid Club of South Australia the prize will be \$750 cash and a fine useful trophy valued at \$250.

Of course, a large schedule of minor prizes will be available — any growers interested in exhibiting may send to the Orchid Club of South Australia Inc, GPO Box 730, Adelaide, South Australia 5001 for a copy.

Entries are free but exhibitors must be financial members of the Orchid Club of South Australia, country, interstate or international membership is available for Aust\$10 per year. Send name and address to above box number with your subscription.

This spring show is essential viewing for orchid enthusiasts who can attend — why not plan a single or club group visit to Adelaide this September to take in the orchid show with the added bonus of the Royal Show.

*Syd Monkhouse, president.*



# Society News

## Gladstone's Big Show

The Gladstone Orchid Society held its annual show over Easter in Anderson Motors showroom. Members regard it as the best show ever. The orchids, embellished with ferns and foliage, were seen by thousands. All displays were beautiful, the dendrobium section particularly so. It surrounded the water fountain and three tanks of showy fish, set against a backdrop of fishing net. Greg and Clare Williams drove all the way from Rockhampton to judge.

## Mornington Orchid Festival

The Mornington Peninsula OS held a festival at the Karingal High School on Saturday and Sunday, May 4 and 5 with the dual purpose of raising money for the school and giving publicity to orchid growing.

Several well-known growers lectured and there were demonstrations of potting and deflasking. There was a splendid display of autumn-flowering orchids. Private growers contributed plants for sale and the leading Victorian nurseries were represented. A percentage of all sales went to the school.

The society had a similar festival in 1984. What a splendid way for a society to publicise orchids in its own district!

## ANOS Far North Coast Group

The group is centred on Ballina which is almost as far north as one can get on the NSW coast. Meetings are on the first Thursday of the month in the Ballina School. President Denis Lynch and his committee are active folk who believe in the virtue of getting to the public. A recent exercise was the putting on of an autumn display at Ballina K Mart. Members worked hard to create an impressive array of plants. The affair was a financial success and so impressed the K Mart manager that he invited them back for next September. Visitors are always welcome at meetings. Vernon Janetzki is secretary and may be contacted at 10 Bent Street, Lismore 2480. Phone (066) 21 7697.

## Orchid Bonanza Chermside

Societies of the recently-formed North Moreton Queensland Orchid Council held an Orchid Bonanza in the spacious malls of the drive-in shopping centre at Chermside, April 18-20. Chermside Drive — the first drive-in built in Queensland. I played cricket there when the area was a paddock — I remember the little babbling brook that used to meander through.

Ten societies and three nurseries staged a display that according to a much-travelled American was equal to any orchid display he had ever seen and better than any he had seen in the southern hemisphere (southern and northern friends please take note).

Brisbane in the autumn is an orchid-grower's dream come true. Dendrobes in all shapes and sizes were in full flight closely followed by cattleyas, oncidiums, vandas, ascocendas, paphs, phalaenopses species and of course bromeliads and anthuriums, foliage plants and ferns. The societies arranged these colourful ingredients into artistic displays that were a pleasure to behold.

Thursday night (late shopping) was highlighted with the crowning of the "Orchid Princess". This charming young lady won much admiration as she distributed posies to the lucky shoppers.

*Dend.* Autumn Show (*D. Tomie* x *D. Paradise Maid*) tabled by Keith and Sue Howard was awarded Grand Champion of the Show. This classy phalaenanthe-type bicolor excelled in shape, colour and size.

Ralph and Anne Nelson tabled the celebrated *Blc.* Harlequin 'Act 1', awarded Reserve Champion of the Show. The Nelsons must be doing all the right things to produce this desirable bloom on a very sturdy plant. Several judges indicated that this *Blc.* Harlequin 'Act 1' (*Lc. Mem. Albert Hienke* x *Blc. Nugget*) was the best they had seen.

Champion Specimen went to *Dend.* Albertine tabled by Ed Thorogood. As this was the same plant that won the Champion

Specimen at the recently-held QOS Show Ed certainly knows how to keep them looking spic and span.

K. and E. Parnell won the Champion Species with a large *Epidendrum cochleatum* — spikes and bulbs were twice as large as average.

The champion *Dend. bigibbum* var. *superbum* was tabled by J. and H. McKinley. This cookie excelled in shape and spike habit.

The Redcliffe Society was awarded first prize for the Society Display and Aspley and West Brisbane dead-heated for second.

It certainly was a real orchid bonanza and what's more it's on again next year.

Frank Oelkers

## Species at Mt Coot-tha

The Queensland Orchid Species Society will be holding its Annual Show in the Mt Coot-tha Botanic Gardens Auditorium on September 14 and 15, 9 am to 5 pm on both days. The society has gained a high reputation for the range and quality in their displays. Native orchids and a display of carnivorous plants will also be featured, plus a photographic section in which species orchid slides will be judged. Show admission \$1.00 and 50¢ for pensioners and children.

Meetings are held on the third Monday of the month in the Mt Coot-tha Botanic Gardens Auditorium.

## Benefits from Johnson Programme

Writing in the ANOS North Coast Branch Monthly Newsletter Mr Jack Read says:—

I would like to pass on the benefits of following Mr Bill Johnson's fertilizing programme using Aquasol, chelated iron and magnesium sulphate that I have achieved and, as a programme, should be fully followed to acquire the best results. In my experience hit-and-miss fertilizing achieves nothing.

Firstly, the growth of all genera of orchids has improved with new growths in many cases having increased by up to 50 per cent on established plant growth. Also, many plants have multiple new growths where normally only one growth develops and are more vigorous in the growths.

Further, flowers that have come to spike since using the fertilizing programme have increased in number of spikes and also in the quality and size of the flowers.

I am very happy with the overall results of the programme to date. Previously I had used several well-known fertilizer brands in rotation but never with the same results as now — but then my culture practices may suit the programme where other folk's methods may not.

Editor's note. This is only one of the favourable reports on the Johnson programme. Dr N. Grundon in the December 1984 AOR has suggested a similar pro-

gramme utilising specific amounts of nutrient salts based on the Poole and Seeley research and a compost of pine bark, perlite and gravel. In accordance with the findings of Poole and Sheehan as published in *Orchid Biology II*, edited by Professor J. Arditti (Cornell University Press), Dr Grundon advocates different concentrations for seedling, sub-adult and adult plants. In a small collection of mixed genera the Johnson formula works very well and has the advantage of being cheap and easy to make up.

If you have a very large number of young plants consult *Orchid Biology II*.

The name, *Brassia*, is in honour of William Brass (who died at sea in 1783), skilled English botanical draughtsman and collector. *Correll*.

The name *Vanilla* is from the Spanish *vainilla*, the diminutive of *vaina* the word for pod. The name alludes to the slender bean-like fruits. *Correll*.

The name, *Bletia*, is in honour of Don Luis Blet, a Spanish herbalist and apothecary of the 18th century. *Correll*.



## Second International New Zealand Conference:

# Wellington's Orchid People

Visitors to the Second New Zealand International Orchid Conference will meet some very interesting growers in that area. There will be orchid folk from all over the world of course but visitors should not miss the opportunity to meet the locals in their growing houses and see how well a huge range of genera are suited to the south of the North Island.

Many local growers have extensive collections of cymbidiums but it is surprising how many collections are devoted to other genera, especially species. This diversity is always evident in the shows and displays organised in the region. The local societies have solid cores of people with a wide and deep knowledge of orchid genera and their culture, and who are always available to pass on their experience.

Kath Black, trading as Black Orchids Limited, conducts possibly the oldest orchid nursery in the area. Much of its basic stock comes from plants sent to New Zealand during World War II and which adapted extremely well to the area. Kath exports paphiopedilum and cymbidium flowers. She sells plants too, particularly the cooler-growing hybrids in the odontoglossum alliance. The nursery is at Levin, about 90 minutes' drive north of Wellington through wonderfully scenic country.

Norm Porter, of 23 Parata Street, Wai-kanae, is a cymbidium hybridist of note. He has built from small beginnings to the status of a full-time nursery.

Hec and Dorothy Hazelwood are inveterate travellers who have brought back all manner of plants from far-away places. They have a massive collection, including Australian natives. They now have an interesting nursery able to provide "something different at the right price".

You can meet Russ Wilkins at Raumati Beach. His address is 4 Remu Street and remu is Maori for meet, and the raumati in Raumati Beach means summer. Russ is a former president of Golden Coast Orchid Society, and currently deputy registrar of the NZ Orchid Council's judging panel so

you will see him often at the conference. He has a large collection of well-grown cymbidiums, and a tidy collection of odonts and miltonias.

Venna and Ken Parnell live in Rosetta Road and their house backs right onto Raumati Beach. They are noted growers of paphs and other genera in a compact, well-planned and set-up orchid house looking right onto Kapiti Island. Anyone who claims sea sprays are not conducive to orchid growing could be surprised with the Parnell's progeny.

Doug and Joyce Burgess trade as a nursery at Paraparaumi under the name Presentation Orchids. Doug is president of the Golden Coast Orchid Society and a polished speaker on orchids. He is programme convenor for the conference. The nursery is high on a hill overlooking Raumati and South Paraparaumu and is renowned for high quality plants in all genera.

A tree the Maoris called Tawa has given its name to the area in which Doug and Marge Patchett live, in a street with the more prosaic name of Bede Grove. Doug and Marge grow many orchid genera as hobbyists. They have a fine showing of flowers right through the year. Doug is convenor of the conference publicity committee and treasurer of the Golden Coast OS.

Another amateur team, Frank and Joyce Askin, have been growing orchids for many years. In fact Frank was a prime mover behind the establishment of the Wellington Orchid Society and became its first president. He is one of the most knowledgeable growers in New Zealand and his plants have received many awards. He was probably the first to breed and flask orchids locally, with notable success in developing yellow cymbidiums. Frank and Joyce now maintain a high-quality collection of paphiopedilum, miltonia and odontoglossum-alliance hybrids and species.

Dot and Roger Cooper are noted orchid society administrators as well as for their wide collection of genera, with special

emphasis on species. Roger is currently president of the Wellington Orchid Society and has served on the Orchid Council of New Zealand. Along with the late Tom Grant-Taylor and Alan Beu he was responsible for establishing the Journal of the Wellington Society, laying the foundations for its success. Dot Cooper is just as intensely involved in orchids as husband Roger and has taken his place as a member of the NZ Orchid Council. She has written an authoritative book on New Zealand native orchids and was the founder (and organiser) of the Native Orchid Study Group which now has over 100 members. They live at Lower Hutt.

Janet Mendoza lives at Naenae, a Maori name which sounds a lot better than its English equivalent "sandfly". Janet calls her wide collection Mabuhay Orchids. She is a member of the NZ Orchid Council's judging panel. She has a phenomenal memory which often proves an asset to the different societies in which she is a member.

Len Wyatt of Lower Hutt is an amateur grower who has been an involved member of societies in the Wellington area for many years. He has a large collection of mixed genera but has a special love for the odonts. A booklet produced by the Wellington OS on odontoglossums was written by Len. He has the major job of show manager for the conference.

John Addison is secretary of the conference committee and very active in society affairs. John and his wife Valerie have a collection of mixed genera, although Val would like to have more cymbidiums for her ikibana.

Dick Reichenback of Wellington maintains a small part-time species nursery

which started as a hobby. Many of his species from around the world were collected by himself. Because many growers are having problems with space in their glass-houses he is now specialising in the compact smaller-growing species.

Philip Tomlinson edits the Wellington OS Journal. Also, in his capacity as special publications editor he has written the society's Cymbidium Cultural Booklet which has sold over 10,000 copies. He is devoted to lycastes and oncidiums and has written booklets on these which will shortly be published by the society. Although his glasshouse is small it holds an amazing range of plants.

Bert and Helen Topp run a small nursery as a retirement activity, trading as Red Oak Orchids. They specialise in cymbidiums but also have other genera. Both are heavily involved in local societies. Bert has the big task of looking after conference hospitality. This involves responsibility for accommodation and tours.

Registrants will meet many such interesting people at the conference. Syd Patton for instance, who is looking after registration. Lorna Cosnett who is secretary of Wellington OS, Gordon Sylvester, who is strong on New Zealand native orchids. Then there is Hank Wortman of Lower Hutt who attributes his success with phallies and paphs to generous use of natural manures. Kevin and Lyn Sherlock are growers renowned for the high quality of their plants. Originally Wellingtonians they now run a small nursery at nearby Otaki. Otaki is a famous name in Maori legend. It symbolises the place where the chief Hau, meaning wind, put his staff in the ground while pursuing his wife. It could be the equivalent of "Hua slept here" or "the wind was calm here". You'll find New Zealand to be full of euphonious Maori names and intriguing legends and, above all, breathtaking scenery.

New Zealanders are naturally hospitable and an orchid conference gives them the opportunity to show it. It's well worth the effort to go. Make the effort and be glad.

Australian tours. Each State and some major societies are organising tours. The conference begins on Tuesday, October 8 and ends on Sunday, October 13.

## Waikato Invites You

Some registrants for the New Zealand Conference have enquired about the dates of the Waikato OS Spring Show. It falls just before the conference, namely September 20, 21 and 22 and is being held at the Te Rapa Racecourse, Hamilton. Hamilton is a picturesque city about two hours' drive south of Auckland. Well worth dropping in on your way south to Wellington.



## Orchid Society of NSW Tour

A tour to the New Zealand Conference has been organised by the society, leaving Sydney on Saturday, September 28 and arriving back on Sunday, October 13. First stop is Auckland for an entrancing three days. Then by air to Christchurch, a city rich in gracious English atmosphere. Then by coach to Mt Cook, Dunedin, Te Anua, Milford Sound, Queenstown and back to Christchurch. You'll see some of the most beautiful scenery in the world.

By plane then to Wellington in time for the conference. The cost on twin-share basis is \$1,250. This covers fares, all accommodation including time at conference, and all breakfasts. Lunch and dinners are not included. Transfer costs between hotels and airports included.

You may book by contacting Mr A.B. Porter on (02) 85 2859, or Mr Bill Smoothey on (02) 46 2567, in first instance.

## Phaius Review

*Phaius* is the official journal of the Tropical Queensland Orchid Council. It records activities of member societies and gives details of local culture.

Featured in the 1985 No. 1 issue is a useful article on the effect of hot weather on *Dendrobium* section *Spathulata* (syn. *Ceratobium*) orchids. This was written by Marj Purnell who specialises in hybridising spathulatas. Marj has grown them in New Guinea as well as North Queensland so her advice is very sound.

A chatty article by Mr Val Treloar describes the orchids in flower in his growing house with nice details about their background and culture. Other articles report societies and TQOC matters. Copies are sold by affiliated societies for 50¢.

Overlooked in this issue were the addresses of the secretary and the editor. This could frustrate intending contributors and subscribers. *Phaius* deserves support.

"... orchids are more fun than real work". *Darwin*.



## Orchids for a Lady

A Casuarina stood alone  
on a distant shore, the kiss  
of salt air  
sweet upon her limbs

The years passed: sap-blood  
flowed slower  
through her veins;  
finally all that remained  
was dead wood.

Now, in my greenhouse  
a piece of her lives again-

fine white roots  
of epiphytic orchids cling  
lovingly in their wanderings  
along her length

and a riot  
of tiny blooms adorns  
her naked greyness.

Joan Burke

## Parks Orchid Research

Brisbane forest parks cover an area of 25,000 hectares and include Mt Glorious, Mt Nebo and Mt Coot-tha. The area is owned by City Council, Forestry Department and National Parks, but is administered by a single authority. Within the area there is a line of demarcation between the rain forests of the south and the type of rain forest in the Blackall Ranges.

At the moment Parks Authority has research teams studying various aspects of the area's ecology to ensure conservation and careful development.

One such team comprises Ralph Crane and Bill Mitchell of the Queensland Native Orchid Society. They are working on a voluntary basis to record all the orchids and their habitats in the park. Their work will help ensure preservation of these habitats.

To date 52 species have been found within the parks area, plus a new and as yet undescribed *Pterostylis* sp. found by Ralph Crane.

# Orchid Usage and Future Conservation

JOAN C. BURKE

The word 'orchid' usually projects the image of a magnificent cattleya. In the 1940's and 50's when corsages were worn to all manner of social occasions it was every young woman's dream that the corsage her escort presented would contain an orchid. Roses, gardenias, tuberose — all paled into insignificance when compared to an orchid.

But the *Cattleya* is only one genera in a very large and diverse family, of which there are an estimated 25,000 species. The immense variation of colour and form is almost beyond comprehension. Some flowers mimic doves and swans, whilst others resemble bees, butterflies, ducks and even frogs.

Even the difference in size is mind-boggling, when one considers that a thimble is large enough to accommodate the smallest-known orchid plant, and the largest — a vine — can attain thirty metres in length.

**Native orchids were used in the past by the Australian Aborigines both as medicine and food.**

Aside from the charm and fascination of growing orchids it is interesting to note that at one time there was another, more practical side to these queens of horticulture.

At the time of Cortez' conquest of Mexico in 1519, Spanish conquistadores found that the Aztecs used portions of a certain plant's seed pod to flavour their cocoa. This plant was ultimately found to be the orchid *Vanilla planifolia*, the vine mentioned above.

Nature is rather tardy in pollinating orchids, with certain species requiring a specific insect to perform the task. As the flowers of *Vanilla planifolia* last only one

day, the pollinating has to be done by hand. When ripened, and processed, the pods are the source of vanilla flavouring. Good ice cream still contains the natural essence, although a synthetic is now used commercially. The old story of the genuine article being too costly (and scarce?) for general use.

Here in Australia, some of our native orchids were used in the past by the Australian Aborigines both as medicine and food.

There exists a group of orchids, usually leafless, known as saprophytes. These plants don't have the chlorophyll cells that manufacture the essential starches and sugars for their well-being; they obtain sustenance through their roots' partnership with a certain soil fungus.

The Potato Orchid, *Gastrodia sesamoides*, which occurs in all Australian States, is one of these. The potato-like fleshy tubers, from which the common name is derived, were roasted before being eaten. This plant has been reported as being one of the main ones used by the Aborigines of Tasmania. Its flavour is described as being very bland and aqueous.

Species of *Caladenia*, *Glossodia*, *Pterostylis*, *Diuris* and *Prasophyllum* are included among a number of terrestrial orchids that have pale-coloured pea-sized tubers, and were another source of Aboriginal food.

The epiphytes *Cymbidium canaliculatum* and *C. madidum* also had their gastronomic uses. *C. canaliculatum*, which once had the common name of native arrowroot, has a distribution through New South Wales, Queensland, Northern Territory and the north of Western Australia. It is mainly a dweller of dry inland eucalypt forests, usually growing in the hollows of trees, where the roots can travel down into the rotted insides for a distance of several



metres. This orchid is also seen growing on paperbark trees (*mélaleuca spp.*). In this case its roots are able to insinuate themselves under the top layer of bark and creep in all directions.

The swollen base of the short, stiff leaf shoots form the pseudo-bulbs, which can grow into quite large clumps. The seed pods were eaten raw, the pseudo-bulbs raw or cooked.

*C. madidum* with its bright green leaves resembles the typical *cymbidium*. Unlike *C. canaliculatum*, it grows in light rain-forest and the moister types of eucalypt areas.

Its pseudo-bulbs can be eaten in the same fashion as those of *C. canaliculatum*. *C. madidum* is also believed to have been chewed by the Aborigines to cure diarrhoea.

The *Dendrobium* species, *D. speciosum*, which is commonly known as the Rock Lily or King Orchid is mostly epiphytic, growing on trees; although a few are to be found growing on rocks (lithophytic).

**By the year 1990  
animal and plant species  
may be disappearing at the  
chilling rate of 10,000  
per year.**

This orchid is the largest of the *Dendrobium* genus. Its erect pseudo-bulbs (or stems) often reach fifty centimetres or more tall, and occur in clumps of anything up to fifty. In spring, from among the terminal leaves of the mature stems one or two long sprays of cream or white flowers are borne. The blooms are sweet-smelling and are produced in great profusion.

I recall seeing some photo transparencies of a large, almost horizontal, rocky outcrop in the Mallacoota area of Eastern Victoria. This outcrop was covered by plants in flower, carrying what must have been literally tens of thousands of blooms.

I have often wondered if these plants still exist, or whether they've suffered the same fate as so many others, and been vandalised.

The upright stems of *D. speciosum* are in some cases fleshy, though somewhat fibrous. These fleshy pseudo-bulbs have also been

used by the Aborigine as food.

I don't believe that there are many of us who would want to use our orchids in this manner now. It's difficult enough just to locate some of them, let alone exploit our precious plants to experience the dubious pleasures of unpalatable taste sensations. For the Aborigines it would have been a matter of necessity, for us pure indulgence!

This article has been written in the full awareness that the plants mentioned are in ever shorter and shorter supply, due in part to the depredations of unscrupulous collectors.

Only last January I read a report from Far North Queensland that in a supposedly-inaccessible rain-forest area forestry officers found trees felled, and stripped of their orchids!

Also, the World Future Society recently forecast that by the year 1990 animal and plant species may be disappearing at the chilling rate of 10,000 per year (AAP report).

So when we consider the decimation of our forests — in particular the wet tropical rain-forest areas (in the guise of progress of course) — it becomes frighteningly apparent that some way the destruction has to be halted: but who is going to be able, and willing, to call a halt?

I earnestly hope that the day never comes when the only orchids to be appreciated will be dried specimens on display in herbaria.

We can take heart though, in the realisation that concerned orchid growers worldwide are doing their utmost to nurture and conserve the disappearing species; thus doing their part in trying to keep our heritage secure for the children of the future.

#### ACKNOWLEDGEMENT:

*Wild Food in Australia* by A.B. & J.W. Cribb 1974.  
Wm. Collins Publishers.

47 Kemp Ave, Mt Waverley 3419

Orchid seeds are essentially lacking an endosperm (stored food within the embryo sac) and, consequently, the growing embryo has to depend primarily upon some foreign source for its nutrition. *Correll*.

# \$50,000 Waiting to be Claimed

RONALD KERR

Research to create a somatic orchid hybrid goes on! Remember the March 1983 AOR article which, in the light of the Eric Young prize of \$50,000 for a somatic orchid hybrid, an examination was made of developments in genetic engineering?

In a few years, a lot of effort, world-wide, has gone into manipulating the genetic structure of the replication molecule deoxyribonucleic acid, DNA for short, in order to produce more productive strains of plants.

Somatic hybridising is the crossing of two plants by non-sexual means. The intention is to develop a technique whereby way-out crosses, impossible by normal means, can be made.

The late Mr Eric Young offered \$50,000 to the first man or team to achieve this with orchids. A condition is that the somatic hybrid must be capable of breeding. The most obvious approach is to mix the mesophyll cells of two plants in a culture in the hope that two haploid sets of DNA would combine.

The team of Grace R. Price and Elizabeth D. Earle of Cornell University have been working on this approach. They published a report on their results to date in the October 1984 issue of the *AOS Bulletin*.

Mesophyll tissue cells are the ones between the outer skins of a leaf or petal. These are isolated and enzymes used to digest the cell walls. If two protoplasts from different plants can be fused and the new cell induced to proliferate to form protocorms, hopefully they might be nursed into becoming hybrid plants. We know it can be done with cell tissue from a single meristem because this process is now an everyday affair and orchid mericlones have been around for years.

Price and Earle used protocorms, roots, leaves and flowers of various orchid species and hybrids as sources of protoplasts. Protoplasts are living cells without cell walls. Cell clusters were produced but it was not certain whether any of these were hybrids.

Survival rate of protoplasts in these experiments was poor, with petal protoplasts from *Dendrobium* Louis Bleriot

proving to be better than leaf protoplasts. However, where two different protoplasts are used together the tendency has been for one to abort. Protocorms, leaves and roots of seedling cultures, proved poor sources of protoplasts.

Pioneering work on cell culture was done by Dr C.K.H. Teo in Malaysia. During a research period in Germany Dr Teo teamed up with Dr K.H. Neumann to author a paper *The Culture of Protoplasts Isolated from Renantanda Rosalind Cheok*. They showed how to produce protoplasts but did not attempt to hybridise, merely suggesting the possibility. They also pointed out that one disadvantage in working with orchid protoplasts is that they are slow in growth and development compared with plants used by other experimenters.

There is another approach which was reported in the December 1984 issue of the *National Geographic*. It looks promising but there is no report of it being tried with orchids.

Scientists at Agrigenetics Corporation used a soil microbe to carry a foreign gene into a tobacco plant. A French bean gene was inserted into a plastid. The latter is an isolated circular portion of a DNA molecule which can be cut by a catalytic enzyme so that the plastid will accept a foreign gene. The altered plastid was then placed back in the microbe and the latter used to infect a gall on a tobacco plant. Cells from the crown gall were then grown on to form a new hybrid — a Tobean. The experiment was repeated using a sunflower plant instead of tobacco.

A just-published book called *Genetic Engineering of Plants* is made up from a number of papers given at an American seminar. These have been edited by Tsume Kouge, Carole P. Meredith and Alexander Hollander. The book is volume 28 of the *Basic Life Series* published by Plenum Press of New York and London.

It is only a matter of time before someone will be claiming that \$50,000 from the Eric Young Foundation.





*Dendrobium filiforme* 'Megan', CCC/QOS

There are 55 spikes averaging 44 flowers. Grown by Allen and Joyce Ryan of Chermside, Brisbane under 50 per cent shade cloth.

# A Gem of the Orchid Kingdom

GERALD McCRAITH



The genus *Polystachya* is mostly confined to tropical Africa, although there are ten species in South Africa, while other species occur in South East Asia and flow on into Mexico and down into Brazil.

The flowers, which are normally 'inverted' are mostly small, and generally have hood-shaped sepals but have a broad range of colours.

The cultural requirements for this genus varies considerably, many requiring tropical conditions, while other species prefer much cooler-growing conditions. The most common species in South Africa are the epiphyte *P. attoniana* and the lithophyte *P. pubescens*, which form large masses on sandstone outcrops near the Natal coastline. Each of these species flower in the spring and may be considered among the small gems of the orchid kingdom.

*Polystachya pubescens* (Lindl) Reich.f. is a dwarf and compact grower that is strong and vigorous with strong rooting system. The short stocky pseudo-bulbs are five to 10 cm tall, and in some respects, resemble the dwarf form of *Dendrobium kingianum* but is much more robust. The growth factor and the conditions required would be much the same. I prefer to consider this species as the daintiest of the genus.

The flowering stem is erect, with about 12 flowers that would measure two centimetres across, of orange colouring with red striping that may last up to 20 days in September-October in conditions suitable for *D. kingianum*.

The open flowers hold themselves 'upside down' which is characteristic of the genus *Polystachya*.

Unfortunately, like many of the African orchids, these plants are not readily available but a little searching effort should locate this little gem that could be a 'conversation piece' in any collection.

107 Roberts Street, Essendon 3040



## Virus Disease

Virus disease is without doubt the singly, most-dangerous disease present in orchid plants. It is incurable, widespread and leads to the eventual destruction of the plant.

Unfortunately plants, unlike animals, have no immune system. Once a plant becomes infected, it remains infected for the remainder of its life, as do all its divisions. The infection is totally systemic, affecting every part of the plant except the meristemic area itself.

Seedlings not free from virus, as pollina from virused plants contain apparently-high concentrations of virus particles.

Where does virus come from?

Two random surveys have failed to uncover any virus-affected plants in the wild in Africa, Central America or South-East Asia. Virus is not spread by leaf contacts, but by insects and knives used to cut plants and flowers.

Bleach is a good virus control for use on utensils. This can be used in the form of a one-minute soak in 2-4 per cent bleach solution which is strong enough to kill Cymbidium Mosaic Virus. This four per cent solution can be made by adding three tablespoons of Clorox to one quart of water. Clorox is corrosive, so should not be used in metal containers, and solution should be renewed every day.

To clean pots. One pint Clorox (household bleach) to four pints of water. Clean pots well before soaking for half an hour in solution, then wash and dry thoroughly. Rinse again before use. Use rubber gloves.

Although it is a hard decision to make, most growers with large collections do not hesitate to burn suspect plants. Many orchid growers, however, still have infected plants in their collections — some even selling them instead of destroying them.

Craig Broadfield in  
*Devonport OS Newsletter*.

“*Sphagnum* moss has large open cells which hold water and make the plant spongy to touch. The plant grows continually upward but decay at the bottom balances the new growth and the living carpet is of constant thickness.”

From *Dictionary of the Plant World*.

## Orchid Stamp Club International

Formed only in November 1983 the Club has over 100 members. About 40 per cent of these are overseas. Members meet every two months on a Saturday at Lilli Pilli near Caringbah, a southern Sydney suburb. The club is now an affiliate of the OS of NSW and also the national stamp body. The latter affiliation entitles members to discounts at some stamp dealers.

Even if you can't attend meetings it pays to become a member. A news sheet is sent out before each meeting with details of new issues and interesting facts about old issues. A stamp bank has been established and the news sheet lists stamps available for sale or swap at meetings or by post.

Club subscription is only \$6.00 for individual or family. For details contact the secretary: Mrs Myra Chalmers, 25 Turriell Point Road, Lilli Pilli, NSW, Australia 2229.

## Nothing Changes

“About 30 years ago *Dendrobium speciosum* was common on all the sandstone cliffs around Sydney, on such outlying rocks as were large enough to afford safety from bush fires. None are now to be found except in gardens and every year the circle is enlarging within which it is disappearing never to return. The “rock lily” as it is called, will never again be found in the localities from which it has been removed, or multiply in those to which it has been taken. It may produce seed but the seed never grows, and at length the old plants must die never to be replaced.”

These words were written by R.D. Fitzgerald, FLS in the 1880's, but they still sound very familiar one hundred years later, showing how little has changed in our approach to conservation. One wonders how large the circle will be 100 years from now.

Len Field in *Newcastle ANOS Bulletin*.

“In 1735-6 Linnaeus visited north Germany, Holland, England and France, using Latin as his major tongue, for he knew little other than his native Swedish.”

W.T. Stearn in *Botanical Latin*.

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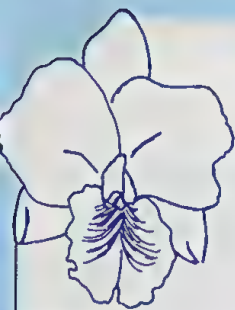
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Dend. thrysiflorum (white, orange lip) x

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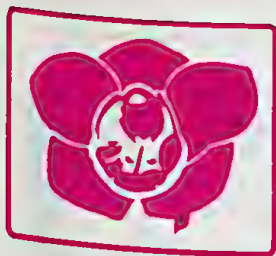
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	Size
Ascda. Buddy Choo x Ascda. Duang Porn — yellows.....	B C
V. Lenavat x (V. Joan Rothsand x Ascda. Medasand) — pink.....	B C
V. Eisenhower x Ascda. Seechang — yellow-spotted red.....	B C
Ascda. Phairot 'Yellow' x Ram Indra — yellow.....	B C
Ascda. Baucis (V. Jos. van Brero x Ascda. Honour First).....	B C

## DENDROBIUM:

D. carroni x johannis — miniature chocolate blooms (blooming size).....	A B
D. Gloucester Sands (canaliculatum x johannis) — blooming size.....	B
D. affine SM/10 WOC x Doreen — long, white and bi-colour sprays...	B C
D. Alwyn Hill x (carroni x johannis) — spectacular miniature.....	A B
D. Debbie Macfarlane x tetragonum — multi-colour antelopes.....	A B
D. Hepa x Paradise Maid — superb bi-colours.....	A B

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Blc. Malworth x Slc. Kauai Starbright — petite yellows.....	A B

## RENANTHERA (MINIATURE):

Twin Star x Poipu — brilliant red sprays.....	B C
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## VANDA:

V. Thananchai 'Yellow' x Seeprai — pale yellows.....	B C
V. Aurawan x Pong Thong — mustard yellows.....	B C
V. Filipino x Bhimayotin — exhibition pink/red.....	B C
V. Emma van Deventer x Rose Davis — blue semi-terete.....	B C
V. Jos. van Brero x Miss Thailand — pink/apricot.....	B C

SIZE A IN PLANTS — \$3.00, B — \$6.00, C — \$10.00 UNLESS OTHERWISE STATED.



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Arunta 'Perfection' x Rio Rita 'Radiant', Chocolada 'Star' x Peter Pan  
'Greensleeves' 4N, Dinki Di 'Rosie' x Chocolada 'Apricot',  
Dinki Di 'Rosie' x Rio Rita 'Radiant',  
Excalibur 'Ygerne' x Chocolada 'Apricot', (Hamsey x pumilum)  
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'Green Gem', Hot Dog 'Red Imp' x Kiata 'Nightshade', Hot Dog 'Red Imp' x Tethy's  
'Black Magic', Invergery 'Winter Red' x Valley Zenith 'Green Gem',  
Little Bighorn 'Ace' x Chocolada 'Golden Dawn', Mimi 'Lucifer' x Sylvania 'Supreme',  
Mimi 'Mary Bea' x Chocolada 'Star', Mimi 'Mary Bea' x Kiata 'Nightshade',  
Mimi 'Mary Bea' x Negrito 'Nutmeg',  
Mimi 'Mary Bea' x Robyn 'Freckles', Mimi 'Mary Bea' x Tethy's 'Black Magic',  
Mimi 'Mary Bea' x Whyba 'Violacia',  
(Nancy Maxwell x Bexley Radiance) 'Red Gem' x Inferno 'Opal',  
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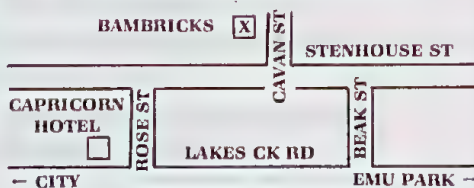
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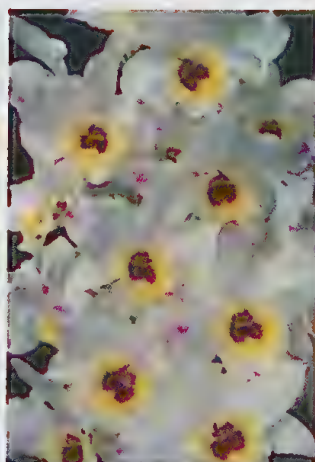
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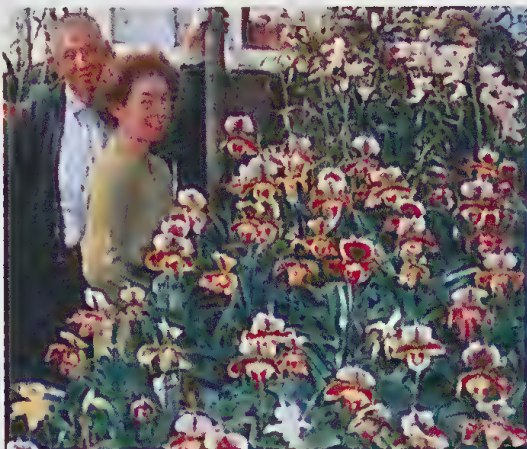
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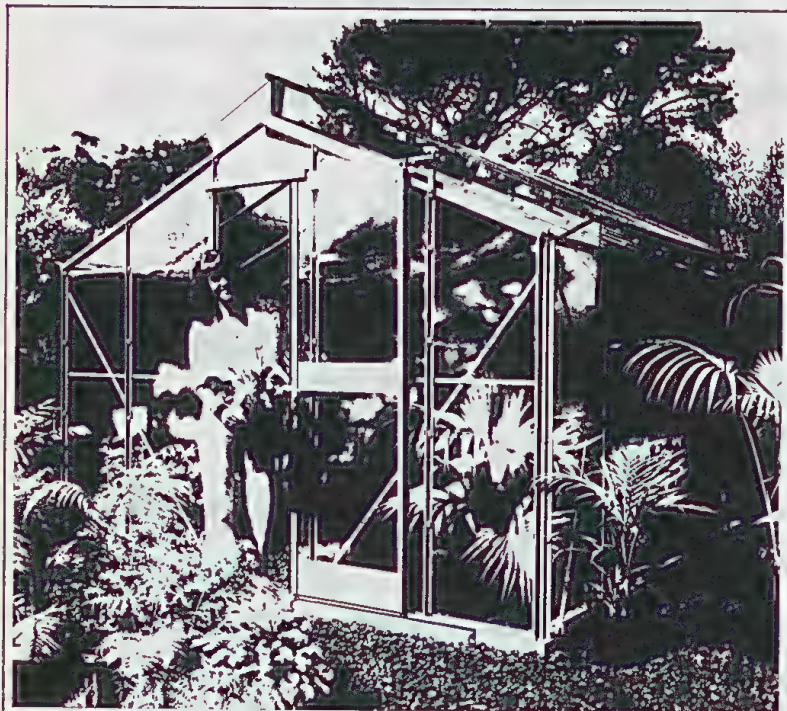
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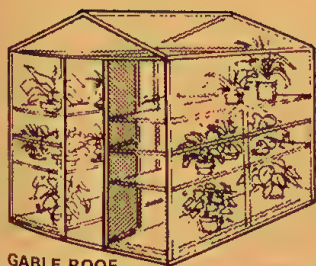
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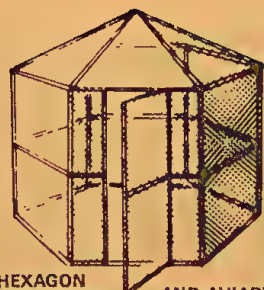


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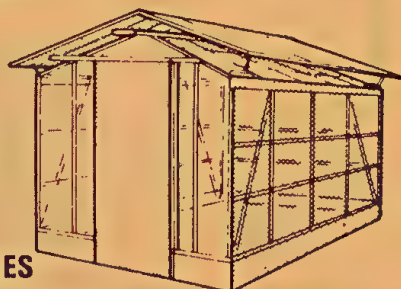
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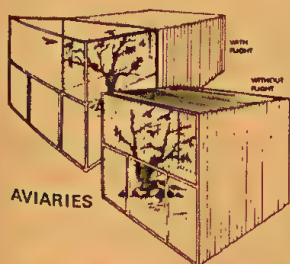
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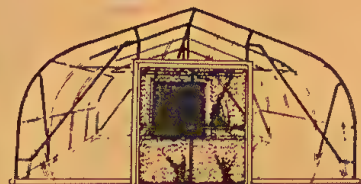
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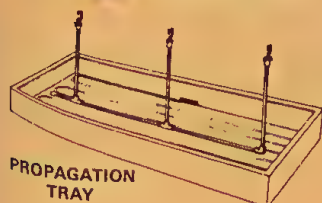
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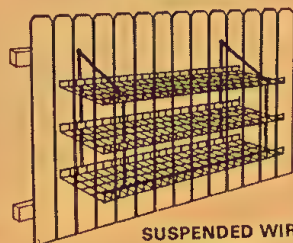
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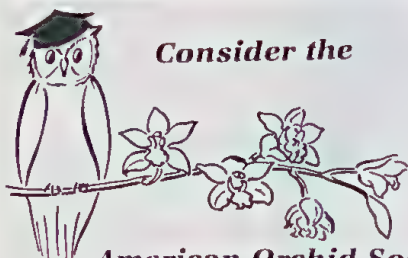
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SPRING 1985



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VICTORIA

17 SEP 1985

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Advertising and Subscriptions to Publication Manager:  
Mark Robinson, 14 McGill Street, Lewisham, NSW 2049.  
Phone: (02) 560 6166.

SUBSCRIPTIONS: 1985/1986 within Australia \$33.00. 1985 \$18.00. Overseas surface 1985/1986 \$37.00. 1985 \$20.00. Airmail. NZ 1985/1986 \$42.00, 1985 \$24.00. All other. 1985/1986 \$56.00, 1985 \$31.00.

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Published by

PRINCRAFT PRESS PTY LTD  
14 McGill Street, Lewisham 2049. 560 6166

Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA 27936

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# Australian Orchid Review

VOLUME 50 — No. 3

SPRING 1985

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## COVER STORY

*Cymbidium* Jubilation 'Geronimo', FCC/AOC-VIC. Votes from the State judging panels have supported this Victorian Orchid Club Award. It only awaits confirmation at the next AGM of the AOC for it to become an official AOC Award. See the report by Dr Julian Coker in this issue.

To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in *italics*. In society bulletins and on place-cards *italics* can be indicated by underlining.



## FRONT COVER:

## *Cymbidium* Jubilation 'Geronimo'

Australia has awarded its first FCC for 13 years to *Cymbidium* Jubilation 'Geronimo' (Wallara 'Gold Nugget' x Borough Green 'Conference') owned, grown and hybridised by Mr Bob Hodgins of Frankston, Victoria. It is the first orchid hybridised in Australia to gain this most prestigious award.

As a first-flowering seedling *Cymbidium* Jubilation 'Geronimo' gained a HCC at the Australian Orchid Conference in Hobart, Tasmania. Last year a mature division bore two arching racemes of 14 and 15 golden-yellow flowers which were judged at the VOC's Spring Festival and granted a FCC, the first in Victoria for 31 years.

Wallara 'Gold Nugget', AM/AOC was hybridised by the late Leo Giles from the crossing of Balkis 'Luath' with Auriga 'Merrilong' and was first flowered by Bob in 1968. Fortunately it proved to be a chance tetraploid from a triploid cross and Bob introduced it into his breeding programme, in this case with Borough Green 'Conference', another of his seedlings, also hybridised by Leo from the crossing of Nicky 'Kuringai' with Baltic 'A.M.'.

The result was the now famous Jubilation cross which has attained new heights in the yellow breeding line. Wallara 'Gold Nugget' is generally dominant for colour, size and its labellum, whilst Borough Green 'Conference' adds to the flower count, shape and floriferousness. Jubilation is a triploid cross, so we must again look for those occasional chance tetraploids to provide the parents for the next generation.

The granting of a FCC recognises superlative achievement, and with *Cymbidium* Jubilation 'Geronimo' a re-identification of the standard required for this highest award is available and will undoubtedly inspire other growers to attempt to emulate this excellent achievement.

A majority of States voted to accept the FCC rating as an AOC award, which means it will be ratified as such at the next AOC annual general meeting.

Julian Coker, Registrar, VOC

## A CURE FOR YOUR BARK

Having grown orchids since 1967 I have become familiar with some of the problems faced by both beginners and experienced growers. Over the last few years experiments have been carried out using various mixtures and methods, such as those by the late Mr Russell Martin and by the Australian Orchid Foundation, with interesting results.

However most growers will agree that the really serious problem with any potting mix, even bark and charcoal, is that it becomes too wet as it breaks down. Thus the mix is not able to dry out between waterings. It may look dry on top, so we water again and loss of roots results, often followed by the loss of the plant.

A potting technique I have developed overcomes this problem. I use a tall pot rather than the squat type, although the method can be used with the latter. Pliable pots are easier to handle. Drainage holes must be cleared of any membrane and enlarged if necessary. I work on the principle of a hole for each 25 mm of depth.

Mainly as a balance for the pot I place three rough, washed and sterilised stones to form a triangle in the bottom of the pot clear of the drainage holes. Next cut a styrene pole to fit the pot. It should be two-thirds the depth of the pot and vary in square size. I use about 16 mm square for a 125 mm pot, 25 mm for 150 mm, 30 mm for a 175 mm pot, 36 mm for a 200 mm pot and 50 mm for a 250 mm pot.

Sheets of styrene in various thicknesses can be purchased.

The chock is placed in the pot with its base between the three stones. Chunks of broken styrene are placed in the bottom of the pot to a level above the stones.

The styrene chock acts as a fast drainage system as it does not hold moisture. It also prevents the bark from packing down in the middle, which is the main cause of excessive water retention.

Good drainage means good root growth, better blooms, and less disease.

R. Brandt



*Oda. Bendigo 'Alva' (Oda. Actrix x Odm. Quisto)*

The colour range and the delicate patterns with its background of the parents makes this clone an excellent stud plant for future generations.

# More About the Odontoglossum Alliance

by Gerald McCraith

It is most pleasing to learn of the many orchid growers who have accepted the challenge to grow this genus successfully. Odontoglossums are recognised as the most colourful and graceful in flowering style, requiring less heating, and taking up less space per square metre of bench space for growers in the cooler regions of Australia.

About 20 years ago, after growing the odontoglossums for some time, I believed that I knew the answer to many of the problems that crop up from time to time. Now at a more mature age, I never fail to be amazed at what I've learnt in the past 20 years.

There are so many facets involved in the successful culture of this fascinating genus, not the least, is the climatic conditions that exist in the region of the grower, and the

environmental protection that has been provided. No one set of rules can apply, although it is possible to be quite successful with their growth and the immediate allied genera in a wide variety of regions. We could quote the Gold Coast where bush-house conditions with a good air circulation, while at Toowoomba, 150 km to the west but elevated, where a glasshouse is necessary with a little heating to neutralise the savage cold that can exist there from time to time in winter, while in Hobart, nearly 2,000 km to the south where a glasshouse with heating facilities with a minimum of 10°C is a necessity.

In each of these regions, the odontoglossums are growing very well because the essentials are fully appreciated. The same analogy may be used in some areas around





(*Odm. Ostro* x *Oda. Actrix*) *Oda. June Geraldine* 'C'

Most seedlings from this cross have proved mostly red with varying amounts of white. Only a small percentage followed the bold markings of the pod parent.



*Vuyl. Moonee Ponds* 'Royal' (*Vuyl. Essendon* x *Oda. Boheme*)

The magnificent labellum has been transmitted from *Vuyl. Essendon* while the shape has been improved, the remaining colour is very deep and eye catching. The branching spike had 40 flowers.



*Oda. Belinda Dixon-Ward* 'Gem' (*Odm. rossii* x *Oda. Florispum*)

It is most pleasing to the hybridist to see the possibility for future generations from the Mexican species. *Oda. Florispum* gives substance and form to this crossing.



*Oda. Oliver's Hill* (*Oda. Trixero* x *Oda. Annette*)

Maintaining this excellent labellum is the achievement of this cross.

Melbourne which is frost free, and where bush-house conditions can apply, yet 40 km away, heated glasshouse conditions must apply. Within reason, the odontoglossums are cold-tolerant orchids.

The essential problem in Australia generally, is to provide conditions that will minimise the hot dry periods that can exist during our summers.

Odontoglossums are shade-loving plants at all times and a careful study of the species will reveal that their natural habitat

are at elevations of 6,000 to 10,000 feet, where the plants are engulfed in mist or cloud or have cloud cover most of the time. In effect, they enjoy a buoyant atmosphere with a free movement of moist air with a minimum of bright sunshine.

The modern hybrid of today has descendants of a complex nature, and this also applies to the multi-generics within this alliance where a wide range of genera have been used in their make-up. So, all along the line, a compromise must be reached to suit any particular region.

The alliance as a whole require similar conditions, perhaps some will be able to stand more warmth in winter than others. If *too much light* is allowed for that region, the foliage will take on a red-bronze appearance which looks good but if allowed to continue and deepen, permanent damage to the surface of the leaf can result in possible loss of the leaf.

This is the result of a defensive physical reaction of the plant in an attempt to shield or protect the leaves from damage. *Odontoglossums* with a fair percentage of *Odm. crispum* in their make-up are usually the first to be affected, because the habitat of *Odm. crispum* is at a higher elevation than many other species.

A very important factor in the management of the cultivation of these interesting plants as they mature is that they should only be repotted or broken up when the plant is in active growth.

This will allow the new root system to penetrate the new potting medium without any setback to the plant. It will be observed that another surge of root action will commence when the advanced new growth is nearing the stage of the formation of the bulb and it is important that the plant is well secure at this stage of its development.

In any collection, it is good practice to handle each plant at least, in every second



*Oda. Douтта Galla 'Bee' (Oda. Aloette x Odm. Hyastro)*

This has been a very variable cross, giving deep reds, some with intricate patterns, while others have a white background with bold red markings.

month because various plants will be in a different stage of development. It may be observed that the leading bulb of some plants has reached maturity, and as a general rule, it will be about eight weeks before a flower spike or another new growth becomes visible.

The leading bulb on some plants may show signs of shrivel, these plants should be kept under observation because this could indicate a faulty root system. The same signs may become evident as the flowering spike is developing. Due to a faulty root system the spike robs the bulb of moisture because the roots have lost their ability to correctly function.

When the growing conditions have been considered suitable, the next major item to be considered is the potting medium that may be used. After making a survey of a number of growers, quite a number of variations of the components that have been used with success. The essential ingredient by all, was that the mix had to be open, much more open than that which would be considered suitable for cymbidiums. All in all, the basic component was bark. The success of using different potting media will depend on the frequency and the amount of watering that will be given to the plants. The ideal is well dampened, never bone-dry or continually saturated. A good watering should saturate every component



*Vuyl. Rosebud 'Doncaster' (Milt. spectabilis x Oda. Franz Wichmann)*

Here is another interesting hybrid by using a Brazilian species. Further flowering of other crosses in which this species has been used is awaited with great interest.



within the pot and as the surplus water drains away, air replaces every cavity within the pot and it is the mixture of air and water which will form a mini-environment to encourage a good root system. If the material of the potting medium has broken down, or it too fine in structure, waterlogging is the result, and all the crotching, if used at the bottom of the pot will *not* assist good drainage. The term 'overwatering' is not too much water, but the lack of air being able to circulate in the cavities of the potting medium allowing harmful fungi and bacteria to generate an internal atmosphere that is not beneficial to the generation of a healthy root system.

Plastic pots are the convenient and accepted vessel for growing most orchids although terra-cotta pots are much better because of their ability to 'breathe' and overcoming some of the possibilities of overwatering. The disadvantages of the terra-cotta today is cost, breakage, weight, and their ability to grow slimes and algae.

Potting should never be too firm and often a small stake to firmly support the plant will be an advantage until the new root system is sufficient for its support.

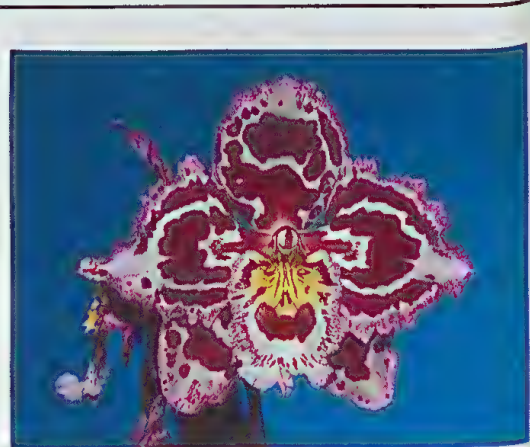
Historically, two parts of teased *Osmunda* fibre plus one part of chopped sphagnum moss with a small sprinkling of oak leaves was the recognised potting material. Sphagnum in itself is an excellent medium if only a few plants are involved so that watering can be carefully controlled but this is more or less impossible where a collection is concerned, and because of the difficulty of supply, quality and price, *Osmunda* fibre is rarely used now. A more readily-available commodity in the form of bark has become the accepted base of the potting medium.

The American *Sequoia* or Douglas Fir is excellent but expensive, while in Australia, bark from *Pinus radiata* is the accepted medium.

Bark from the young *radiata* pine is readily available and very suitable for the cymbidiums. It contains very little toxins, and can be used with a minimum of weathering, but breaks down rather rapidly. However cymbidiums have a rather bulky and vigorous root system to be able to compensate for the breakdown of the bark.

By comparison, the odontoglossums have a comparatively very fine root system and very much less bulky and are not able to compete with this rapid breakdown and 'overwatering' may soon become a problem and awareness must be exercised.

Bark from very old *pinus* or similar is very suitable but this material contains toxins which are a natural preservative for this older bark. This bark must be soaked in water for five or six days to release the surface toxins that are soluble in water, by this time, every particle will have been thoroughly saturated with moisture. Prior to soakage, all fine and small particles should be sieved out and a consistency of peanut-size bark should be attained.



*Oda. Red Hill 'Fiona' (Odm. Egide x Oda. Brocade)*

Most seedlings of this cross seen have good shape with a remarkable variety of patterns.

I would think that many orchid growers would have had the experience of seeing aerial roots get within one centimetre of the potting medium and suddenly see the growing tip die back, this is the result of gases generated by toxins within the pot. Our experiments some time ago, showed that plants in this condition should have the compost knocked out of the pot and all fines and waste sieved out. The old remaining bark should then be washed and soaked for four days and re-used. Roots readily penetrated the recycled material.

The standard potting material that I use today is:—

8 parts Radiata pine bark . . medium or peanut size.

2 parts charcoal . . . about the same size.

1 part very coarse sand or gravel.

1 part old peanut shell.

1 part old sphagnum moss . . . I conserve my old moss, thoroughly dry it, rub through a one-centimetre sieve, giving a 'chaff' product that readily mixes evenly in the mix.

Because of the general fineness of the root system, care must be exercised not to over-fertilise these orchids. I use a slow-release fertiliser at the time of potting. To each heaped 10-litre bucket of potting medium, I add:—

40 g of Osmocote or similar.

15 g coated iron, and as an added organic material, I include:—

100 g pelletised fowl manure, this supplies a good volume of nitrogen for the short term.

Considerable use of *Oncidium tigrinum* has been used in the Wilsonara and the Odontocidium. While these plants require the same conditions as the pure odontoglossums they tend to be stronger growers but the influence of this species is very dominant and frequently restricts the variety

very dominant genus and only starry and open flowers can be expected.

Although the pure *Odontoglossum* is restricted in its colour range, it has the size that is desired. The introduction of *Cochlioda noezliana* to *Odontoglossum* to make *Odontioda* allowed a vast new range of colours. Because *Cochlioda* is comparatively small, it is necessary for the hybridist to keep using the pure *Odontoglossum* in breeding to maintain the size in the desirable modern hybrid of today. Over use of crossing odontiodas to odontiodas, will result in smaller flowers.

For some years, I have favoured the use of *Odm. rossii*, a small-growing Mexican species. The results have been interesting, the plants tend to be more compact, and although the flowers are a bit smaller than odontioda they have produced some remarkable colour patterns.

We have made use of *Miltonia spectabilis* in four crossings and the results of these are awaited with interest. To date, we have only seen three in flower but have been quite impressed by the potential.

The ideal growing temperature range is considered to be 10 to 33°C (50 to 90°F) while the odontoglossums are tolerant to the lower temperatures, every effort should be made to reduce the higher temperatures of the summer.

Shading: 50 per cent should be adequate through the winter period. An even coating of white on the glass should be effective by early September, a flat latex plastic paint broken down with a minimum of six parts of water rolled on makes this task quite effective. By mid-October to the end of March, 70 per cent shade cloth above the glass should be effective in reducing the summer heat. If a light meter is available, hold it a half-metre above the foliage of the plants to measure the radiated light from the leaves. A reading of 2500 foot-candles will prove adequate light on a clear day.

Air movement can be most effectively accommodated by the use of an evaporative cooler if funds permit. Otherwise a fan that is able to circulate the internal air within the glasshouse may be a necessity at all times of the year. The more airtight construction of the glasshouse, the more important use of

*All illustrations are of plants flowering for the first time in the past five years and bred and raised at Essendon: Photos by Gerald McCraith.*

and brilliance of colour that can be expected from the odontiodas.

When the genus *Miltonia* has been used with *Odontioda*, making *Vuylstekeara*, warmth in winter time is beneficial otherwise the same conditions are required.

When the genus *Brassia* has been introduced to the alliance, warmth and a dryer spot is required during winter. *Brassia* is a





*Vuyl. Mount Dandenong 'Plum' (Vuyl. Bradena x Odm. Tontor)*  
 There was very little evidence of the male parent of this cross in the seedlings seen.  
*Odm. Tontor* is an excellent white of good substance.

the fan will become at all times of the year, especially in the autumn.

Relative humidity is most important and very often misunderstood, 50 to 60 per cent is an ideal and creates a very comfortable atmosphere.

### Summary

The modern odontoglossum-alliance hybrid is in active growth throughout the year.

The odontoglossum hybrid does not have a defined flowering season, flowering throughout the year, even the same clone will flower at varying times year after year.

Conditions that are suitable for the growth of ferns are generally also suitable for the odontoglossums.

Masdevallias, paphiopedilums, lycaste, miltonias and other genera are suitable companions to grow with the odontoglossums.

Only repot these plants when they are in active growth.

Never allow these plants to dry out completely.

Never allow these plants to grow in the dense shade.

Never overpot these interesting orchids.

Never allow the spike of flowers to develop if the bulb shows signs of severe shrivel.

Never under-estimate the ventilation requirements and air circulation.

Mist sprays under the benches can be most beneficial during the hot, dry summer period.

At all times, problems will arise, often commonsense will prevail.

In conclusion, I would like to pay tribute to the old pioneer firm of Charlesworth & Co. Ltd of Heywards Heath, Sussex, which ceased business in the early 1970's, from where the descendants of all the modern hybrids of today originated.

# Mineral Nutrition of Epiphytic Orchids in Tropical Forests

GORDON C. MORRISON

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*This subject has not been dealt with at length and in a quantitative manner previously. There has been much work done on tropical forest ecology over at least 60 years but orchids have not received very much attention. This paper reviews some of the ecological and climatic work relative to mineral cycling and extrapolates this to the nutrition of epiphytic orchids in the wild. Many papers were studied but to avoid over-referencing only the 28 most relevant are included in the References.*

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**Introduction.** The ecology of orchids is not a subject which has received very much fruitful and competent work. There is a great deal of supposition recorded in orchid periodicals and sometimes in works of greater moment. Holttum (1960) covered the Ecology of Tropical Epiphytic Orchids in a brief general qualitative manner. Sanford (1974) covered the subject in a more comprehensive manner but apart from calling up various papers on the subject made little quantitative mention of mineral nutrition. Poole and Sheehan (1982) while concentrating more on the mineral nutrition of orchids in cultivation, do give a brief qualitative description of nutrition in the wild.

There have been other dissertations notably that of Johansson (1974) on vascular epiphytes and these will be referred to herein. Other papers on tropical forest ecology (but not specifically on orchids) contain useful data and these papers will be cited at appropriate places. To conclude this introduction I quote a passage from *Wanderings in the Great Forests of Borneo* by Odoardo Beccari (see Guillemard 1904). Odoardo Beccari landed in Borneo in June 1865 with the object of investigating its natural history. He wrote:—

“No one will deny that epiphytes must have derived their origin from terrestrial plants. When the forest rendered the development of certain plants impossible, by reason of the shade which stunted their growth, and perhaps the dampness of the soil, or on account of that tendency, so common among living things, to strive to get above each other, a given number found their salvation at higher altitudes where, though they were able to satisfy their craving for light, they were nevertheless compelled to struggle against hunger and thirst.”

Those people who specialise in species orchids may well be aware of the beautiful although muscarine orchid *Bulbophyllum beccarii*



Rchb.f. I saw a magnificent specimen of this plant in the collection of Mr Lee Shong Mai in Sabah some years ago. Another orchid, *Bulbophyllum odoardii* Rchb.f. Pfitz. (Dressler 1981 p. 9) and Seidenfaden 1979) was also named after this naturalist. This is one of the small *Bulbophyllum* and has been placed by the latter author in Section *Monili Bulbus* along with the two small Australian *Bulbophyllum*, *B. minutissimum* (F. Muell) F. Muell and *B. globuliforme* Nich. (Dockrill 1969) plus other miniatures from Thailand.

Specific data for all of the facets of mineral nutrition discussed herein have, of necessity, been obtained from various sources for various locations in the tropics and hopefully such transpositioning of data, even between continents, will provide some useful information on the subject. The structure of primary rain forest in America is essentially the same as in Africa or Asia. Although the species differ they are alike in life form so the basic structure remains the same (Richards 1952 p. 20).

**Distribution of Epiphytic Orchids and their Density.** For the information used to make the following calculations I am indebted to the comprehensive work of Johansson (1974) who made many observations over a six-year period in the Liberian forests of Western Africa. As some forest clearing was being carried out he was able to identify and count the species of orchids in fallen trees (he calls this close observation) but additionally many were counted through a tripod-mounted telescope (distant observations). There were 6 490 close observations and 6 551 distant observations of the various species, a total of 101 species were studied. Johansson divided the host tree into five sections and counted all of the orchids on the hosts in accordance with their allocation to these sections. Table 1 refers.

Not all trees in the forest carry orchids for various reasons, so the actual percentage of trees which carry epiphytic orchids is also of importance when assessing their distribution. Johansson used three sample plots each 50 metres by 15 metres and mapped the trees greater than 10 metres high and the number carrying orchids. Trees under 10 metres were not counted as they seldom carried epiphytes. The total area of the three plots was 0.225 ha and carried a total of 96 trees of which only 30 carried orchids, that is 31 per cent were orchid hosts. Assuming that all trees over 10 metres height had substantially the same vertically-projected canopy area, then the trees carrying orchids covered 0.07 ha within the sample area. From Table 1 it is apparent that 96 per cent of orchids occur within the first 0.67 of branch length. Assuming the canopy to be roughly circular then the maximum area, projected on to the ground, which the orchids could cover (at a 96 per cent total population figure) would be  $0.45 \times 0.07 = 0.03$  ha or expressed linearly would fit into 50 metres x six metres or 13 per cent of the total area of the plots. The measurement of abundance by projecting the canopy coverage on to the ground and estimating the area covered by the species of interest is a standard ecological procedure and surprisingly accurate.

Tropical forests are well known for their great species diversity

when compared to temperate forests, where in a given area of the latter one expects to see the same species occurring frequently. Referring again to the work of Johansson (1974) his first sample plot contained 29 trees of which 15 were of different species. His second sample plot contained 35 trees of which 19 were different species so slightly over 50 per cent of the trees in the area studied could be assumed to be different species. Poore (1968) counted 2 773 trees in 23 hectares of the Malaysian rain forest. These belonged to 375 species and 139 genera giving a mean of about seven trees per species in this area, quite a high diversity.

Most certainly the tropical forest has a great diversity of orchid species, when compared to the sometimes barren temperate forests, but possibly the number of orchid plants in each sample plot may not be much greater than the number of different species present. Sanford (1968) stated that the actual counting of orchid plants in a tree is difficult. Many plants form mats of pseudobulbs connected by long rhizomes so one cannot determine where one plant ends and the other begins. He used the term 'stand' to mean a collection of individual stems and/or plants spatially separated from another group of the same species either by an area on the tree without orchids or occupied by another species.

Odoardo Beccari had this to say in his 'Wanderings'.

"It is however a mistake to suppose, as many do, that beautiful flowers and especially those of orchids, are common in equatorial forests forming conspicuous masses of bright colour. One may wander for days in a Bornean forest without seeing a single brilliant flower — mainly because there no single species of plant occupies entirely any extensive area."

Of course, orchids are not the only epiphytes and do not have unrestricted run of the branches. Ferns, bromeliads (where they exist) and sundry other genera all compete for space. The actual area inhabited by orchids is difficult to estimate as the root run is relevant when considering nutrition and in many cases the roots are clearly more extensive than the vegetative part of the plant so the maximum possible area coverage for all of the 65 species identified in all three sample plots is about the best that can be estimated, ie, 50 metres by six metres or 13 per cent of the total area.

**The Role of Birds in the Nutrition of Orchids.** On many occasions I have read in orchid journals that bird droppings are probably responsible for the nutrition of orchids in the forest. Many people who enter a tropical forest for the first time are surprised at the lack of animal life, except for insects. Their concept of the forest has been just the opposite fostered possibly by those excellent documentaries shown on television. The half or one hour-length features display a wide variety of animal life in a bewildering sequence, thanks to the film editor, but in fact may have taken six to twelve months of patience to record. Birds are essentially creatures of the open grasslands, lakes and environs and the coastal fringes where they are gregarious and occur in thousands. In 'jungles' they are relatively rare, one may have to remain in one spot for an hour or more to either hear or see a bird. Most of the species are



solitary and dispersed throughout the forest instead of aggregating in large communities. They are, therefore, present only in very low density, each species consisting of only small populations. However, like all organisms in the tropical forest there is a great diversity of species which may sometimes be misleading unless one realised that each species has few members and maybe none at all in the study area.

The constant environment and continuous supply of food allows the birds to inhabit the same area and migration is very small. Fruit-eating birds do move from place to place as fruit ripens but this does not involve long-distance movement and travel is only on a local scale (Galbraith 1974).

The tropical forest, as a habitat, not only has area, it also has height and various species are found living in layers. Harrison (1962) studied the bird species in Malaya and allocated the species into four layers,

1. The air above the forest.
2. The canopy.
3. The middle zone or trunk.
4. The ground.

Seventy-nine species comprising 26 per cent of the total species inhabited the canopy and the droppings from these could provide some nutrition for orchids. However, birds eat fruit or insects which have fed on parts of the vegetation and it is a characteristic of any food chain that faecal matter is only a small percentage of the ingested material. One may reasonably assume that the highest concentration of faecal matter would be around nesting sites and although this may be a useful amount of nutrition in a small area it would limit the distribution throughout the forest.

In view of the small population of birds and the relatively small area of the total forest covered by orchids it is unlikely that birds contribute significantly to the nutrition of these plants. The plant nutritive capacity of bird droppings does not appear to have inspired scientific investigation. To provide some idea of this subject I made a qualitative analysis of the water soluble fraction of the droppings of some local native birds inhabiting our bushland. This fraction amounted to seven per cent of the total weight. A positive result (ie, present) was obtained for nitrate, ammonium and phosphate, while nitrites, magnesium and potassium were not detected. These tests were only exploratory and to be meaningful more elaborate quantitative tests are desirable, preferably from birds in a tropical forest.

**The Role of Other Animals.** Bats occur in limited locations at much greater density than birds and Perry (1978 as cited in Dressler 1981 p. 84) noted that the presence of bat colonies encouraged the growth of epiphytes. Monkeys are also gregarious and move through the forest and, along with squirrels, destroy plants growing on the top of branches to facilitate their reaching trees having edible fruits. Ants appear to play an effective part in nutrition of some orchids but only on a very localised scale. Much has been written on the symbiotic association between ants and *Acacia* plants (Janzen 1967) but very little on ant-orchid association except for Dressler (1981). Some orchids have hollow pseudobulbs which ants are able to colonise and so provide improved mineral nutrition for the orchid but infestation is not mandatory for

growth, however other orchids seem to require a positive ant-colony association in order to grow at all.

In Australia there are a number of epiphytes which contain ant colonies inside their tissue but orchids are not included, perhaps because no one has investigated this matter or perhaps such association does not exist. Plants which do contain ant colonies are in Cape York Peninsula usually in open canopies of swamps and savannas where other epiphytes are rare (Huxley 1982). So except for some rare cases, just a few orchids out of thousands, one cannot suppose that animals make any significant contribution to the nutrition and welfare of epiphytic orchids.

**Nutrition from Litter.** This is usually the next most popular choice after animal droppings for the provision of nutrients to orchids. Many orchid seeds seem to germinate if lodged in the crotch of a tree and as they spread vegetatively in a horizontal direction (sympodial plants eg, *Dendrobium*) they collect quite an appreciable amount of leaf litter over a period. Leaf litter is only a part of the total litter fall but it is the most plentiful part. The amount of leaf litter varies widely from 8 000 to 16 000 kg ha<sup>-1</sup> in a humid tropical forest to 3 000 to 8 000 kg ha<sup>-1</sup> in semi-humid sub-tropical forest per annum (Rodin & Bazilervich 1967). Rogers & Westerman (1977) measured litter in a sub-tropical Queensland forest and obtained a weight of litter of 6 430 kg ha<sup>-1</sup> yr<sup>-1</sup> but some 50 per cent of this was due to substances not of leaf origin.

Dressler (1981) stated that many plants have root systems which form 'trash baskets' by the upward growth of roots, *Grammatophyllum* and *Ansellia* have species which have pronounced leaf-collecting root systems. Naturally most leaf litter falls to the ground in the forest and when this decomposes and the nutrients are released by dead micro-organisms the tree has the opportunity to recycle the nutrients. Epiphytic orchids which lose their parts, such as leaves, flowers and fruits to the ground are unable to participate in the recycling process unless the root system and its litter collection, is also able to collect its own abscised parts, which in many cases seems most unlikely.

Quantitatively if there is 10 000 kg ha<sup>-1</sup> yr<sup>-1</sup> of leaf litter then in our 'orchid area' of 0.03 ha some 300 kg will fall per year, a small but unknown amount may be caught in orchid trash baskets or tree crotches. All fallen litter is acted upon by detritus processing fungi, bacteria and animals the latter being largely responsible for breaking the litter into small pieces so increasing the surface area and making the material more accessible to micro-organisms. Much of the litter is penetrated by fungal hyphae some of which may be symbiotic with the orchid roots and so convey nutrients direct to the orchid plant, others may be just decomposers without any symbiotic relationship. Bacteria also play a significant role in decomposition using the nutrients for their own proliferation but when they die the nutrients are recycled.

The rates of decomposition vary widely. As one may expect it is much faster in the warm, wet tropical forest than in the temperate forest. The leaf composition also effects the rate of decay, those high in lignin are much more resistant to decay than others with lower lignified tissue.

The decay of litter is analagous to other natural decay rates, eg, radio-active elements, and has a decay rate constant (k) and a point in time (t<sub>1/2</sub>) which is the decomposition half life, that is the time after which just half of the original mass of the substance remains.



If  $M_o$  is the mass of the original litter and  $M_r$  is the mass of the litter remaining then

$$M_r = M_o e^{-kt}$$

which needs to be solved for  $t$ .

If  $M$  is the mass of litter present now, the change of litter mass with time is

$$\frac{dM}{dt}$$

The change of litter mass depends on the mass of new litter falling ( $M_{new}$ ) over time  $t$ , minus the decay rate ( $k$ ) times the mass of litter we have ( $M$ )

$$\text{so } \frac{dM}{dt} = M_{new} - kM$$

but if the litter mass remains constant, that is its change is zero, then

$$\frac{dM}{dt} = 0 \text{ so } \frac{M_{new}}{M} = k$$

If we take a figure of  $10\,000 \text{ kg ha}^{-1} \text{ yr}^{-1}$  as a suitable value of litter fall, within the tropical forest figures given above, this equals  $1\,000 \text{ g m}^{-2} \text{ yr}^{-1}$  for  $M_{new}$ .

If the mass of the present litter remaining ( $M$ ) is  $200 \text{ g m}^{-2}$  then

$$\frac{1\,000 \text{ g m}^{-2} \text{ yr}^{-1}}{200 \text{ g m}^{-2}} = 5 \text{ yr}^{-1} \text{ for the value of } k.$$

We are interested in the half life time ( $t_{1/2}$ ) when half the litter has decomposed, that is

$$\frac{M_r}{M_o} = 0.5$$

so  $0.5 = e^{-kt_{1/2}}$  which, as  $k = 5$ , gives a  $t_{1/2}$  value of 0.14 yrs or 51 days.

Olsen (1963) quotes a  $k$  value of 4 for African forests giving a half life for litter of 0.17 yrs or 63 days. Whittaker (1975) gives a figure of 0.12 yrs as the half life for tropical rain forest and one year for a temperate deciduous forest, the decay in the latter being nine times slower than in the tropics. *Eucalyptus* forest litter half life has been calculated for 2.9 years (Rogers et al 1977) indicating the resistance of sclerophyllous leaves to decay.

The rapid decomposition of the litter around the orchid roots may not be as beneficial to the epiphyte as may be imagined. The ionic exchange capacity of the decomposed litter is unknown but some significant amount of ions would be free in solution within the litter and high rainfall is likely to wash the nutrients down into the soil if the release (decomposition) is faster than root absorption and absorption can only occur when the ions come into contact with the roots. So we may speculate that decomposition of litter would be of some benefit in somewhat drier parts of the forest or where there are prolonged dry periods as in the Gambia (Thornton 1965). The drier environment would

slow up the decay. As long as decomposition remains aerobic, which is most likely when the litter is confined to trees, then carbon dioxide and water are the end products, insufficient water for the plant but probably enough to keep the bacteria and fungi healthy.

**Just How Good is Litter as a Plant Nutrient?** It is well known that the plant salvages much nutrient from leaves before senescence. In deciduous trees this occurs in autumn but in the tropical forest with its lack of seasons this salvaging occurs as each leaf ages. Calcium is not mobile in the phloem tissue and largely remains in the leaf but other elements are withdrawn into the plant prior to leaf fall. Therefore, leaf litter is not expected to be very rich in minerals except for calcium. Nitrogen is also recovered so that fresh leaf litter tends to have a high C:N ratio of 100:1 or greater. As such the litter is an ineffective nutrient source for epiphytes. If the C:N ratio exceeds about 22: 1 no nitrogen (as the ammonium ion) is released for plant usage as both bacterial and fungal decomposers are incorporating the entire stock of nitrogen into their own tissue. As the nitrogen is low, decomposition will be slow hence the release of mineral elements is also slow. This is the condition existing in drier types of forest and accounts for the low decay rates stated previously. In wet forests extra nitrogen is supplied to the litter mass from sources to be described later. This increase in nitrogen lowers the overall effective C:N ratio, ideally to a value of about 14:1 giving rapid decay. However, as pointed out previously a rapid decay rate may not be the most desirable for adequate mineral nutrition of the orchid.

The decomposed part of the litter, like any humus must contain organic acids and some amino acids which have some cationic exchange capacity and hold cationic nutrients such as  $\text{Ca}^{2+}$  and  $\text{K}^{+}$  for future use by the plant. Normally these 'held' nutrients, as distinct from the free nutrients, are not readily washed out by running water. However, the phenomenon of acid rain is now well known, particularly in industrial countries. Esmen & Fergus (1976) measured the pH of rainfall drops in the USA and the result was bimodal with maximum incidence occurring between pH 2.5 to 3 and at about 4.5. Very few drops were above a pH of 6. Similar measurements of tropical forest rain are not available but it is also well known that wind carries acid-forming particles over quite long distances from industrial countries to non-industrial countries which seem to be the principal ones suffering from this problem. There is, therefore, no reason to suspect that rain over at least some tropical forests should not be acidic. Acid rain falling on litter provides a considerable amount of hydrogen ions ( $\text{H}^{+}$ ) to replace the exchangeable metallic cations adsorbed to the organic acid negative charges. This cationic exchange would thereby drain useful nutrients away from the litter. It is possible that much of this released nutrient could be taken up by fungus, either mycorrhizal or saprophytic, before it becomes run-off from the 'trash baskets' but this depends rather on the intensity and duration of the rainfall.

Clements and Colon (1974) studied mineral cycling in the rain forests of Puerto Rico and found that litterfall contained  $81.8 \text{ kg ha}^{-1} \text{ yr}^{-1}$  of calcium whereas there was 10.2 for magnesium; 5.1 for sodium and 7 for potassium expressed in the same units; a clear indication of the high calcium content, as compared to other elements, in leaf litter. One may conclude, therefore, that leaf litter collected in a tree, may supply some nutrient elements by its own decomposition but perhaps more



importantly it acts as an aerobic reservoir for the epiphytic roots to explore for water. Additionally this water will contain some extra nutrients washed from the living tissue of the tree as discussed in the next section.

**Rainfall, Throughfall and Stemflow as Nutrient Sources.** These three factors are tied closely together and need to be so considered although their nutrient potential varies markedly. Rain falling into a forest is called 'incident precipitation'. The rain water may be held in the canopy (the canopy storage capacity) and evaporated therefrom after, or even during, a storm or it may pass through the canopy interacting with many leaf or branch surfaces and fall to the ground or be caught by the trash baskets of epiphytes. This latter component of rainfall is known as 'throughfall'. Some of the original precipitation reaches the ground, or epiphytes, by running down the branches and trunk of the tree. This portion is called 'stemflow' and nearly all stemflow first encounters leaf surfaces before it is collected by the woody part of the tree. In terms of definition the flow is named after the last surface encountered. In a tropical forest with its usual three strata of trees (Richards 1952) the canopy is multi-storied so the throughfall to the lower story may have encountered and washed many leaves en route.

It is clear that rainfall itself is important not only as a provider of water, especially for the epiphytic flora, but it also provides a nutrient input from locations outside the forest, usually from the sea. It has been shown by Thornton (1965) in respect of the Gambia that the rainfall decreases with distance from the sea giving a reduction in mineral nutrients deposited on to the forest although the deposition ratio for all of the nutrients is not constant, the phosphorus content decreases by only 15 per cent over a distance of 127 miles (203 km). Apart from this rainfall the forest must support itself by continually cycling nutrients throughout its mass from soil to root to wood to canopy and finally back to soil. With the heavy tropical rains there is wastage from the site by run-off, which in a sense also effects the epiphytes in that nutrient is lost to the host tree, this decreases the amount of nutrient present in the apoplast of each leaf, hence less can be leached out on to epiphytic growth.

The amount of mineral salts in throughfall is always (as measured) greater than the amounts in incident precipitation. The rain water, when passing over the leaf surface leaches out minerals and several organic substances not yet incorporated into the cellular tissue of the leaf. These organic substances have not been investigated widely but include free sugars, amino acids, gibberellins and vitamins (Tukey 1970) substances which are not included in the topic of this paper but which may have great influence on the micro-organism growth and decomposition of litter as well as a direct influence on the epiphytic growth itself. 'Leaching' is a term used to describe the removal of substances from leaves washed by water and is analogous to the washing or leaching of nutrients from the soil. The leaves need only to be wetted to be leached so that dew, fog and light rain are very effective leaching agents. Mature leaves are more susceptible to leaching than young leaves, these latter are actively growing and quickly incorporate ions into cell tissue, in older leaves this rate of cellular accumulation is less leaving more ions available to be leached. Foliar leaching, therefore, competes with cellular metabolism. In prolonged periods of rain when leaching is extensive the leachates have

been shown to contain more nutrients than in the leaf originally indicating that leached substances are replaced by the plant. If taken to the limit such leaching could starve the plant to death (Tukey 1970). It is well to remember that orchids can be leached, although no evidence is available to date, so that continual misting of these could be detrimental unless the plants are supplied with an adequate source of suitable and available nutrients.

Another source of mineral nutrient to throughfall water is the dust which is deposited on to leaf surfaces. These dusts are airborne particles which, in the absence of rain, collect on the foliage and are derived from volcanic eruptions (even routinely gassing volcanoes), from deserts and from anthropogenic sources. Sea-salt elements in coastal forests probably originate by fallout of larger particles, wind-borne from sea spray.

It is probable that the nutrient content of throughfall greatly accentuates the growth of fungal and bacterial decomposers. These nutrients in solution are available immediately to the micro-organisms and supplement the paucity of those within the dead leaf.

To gain some idea of the improvement of mineral nutrients in throughfall compared to rainfall several workers have measured both at various forest sites, tropical and temperate. In all cases the throughfall nutrient is considerably greater than the rainfall nutrient, but only tropical forest figures will be stated here. Clements and Colon (1974) made measurements in Puerto Rico forests and found that as rainfall passed through the canopy the calcium concentration was increased by a factor of 4.4; magnesium by 2.6; sodium by 1.8 and potassium by 9.6. Other investigators have found similar increases although these vary in magnitude for different forests, proximity to the sea, rainfall frequency and proximity to dust sources.

Many orchid epiphytes do not collect litter but secure themselves to branches or even to the vertical tree trunks. For these plants stemflow is a major nutrient source. Stemflow is reported as conveying a smaller amount of nutrient material to the forest floor than throughfall, the amount of stemflow being between one and twenty per cent averaging about 12 per cent depending on the nutrient element and types of trees (Parker 1983). Curtis (1946) made measurements of stemflow when investigating orchid nutrition in Haiti. *Eugenia jambos* was a popular host to many species so he carried out his measurements on this tree and gave the results, quite correctly, in millimoles. To make these more meaningful for those not familiar with this form of measurement I have converted to parts per million so giving potassium = 3 ppm; calcium = 1 ppm; magnesium = 4.3 ppm; phosphate = 1 ppm; sodium = 3 ppm. By comparison Clements and Colon (1974) found stemflow values of potassium = 2.91 ppm; calcium = 0.91 ppm; magnesium = 1.22 ppm and sodium = 7.14 ppm.

One may conclude, therefore, from the epiphytic viewpoint where dependence for nutrition is on throughfall and stemflow that high rainfall can produce significant amounts of mineral nutrients to the roots and leaves of the plant. While the quantities themselves may be small the continued flow of these over the roots provides a continually and frugally-useable source of the nutrients. Parts per million may sound a rather insignificant amount but it is equivalent to the number of milligrams of solute (mineral nutrient) per litre of water. If one considers the number of litres which drain down in stemflow in daily tropical rains



it is not too difficult to equate this with the strength of fertiliser solutions given to orchids in culture once every two or four weeks.

Finally in respect of throughfall and stemflow, regression equations in the form of  $y = a + bx$  were developed by Clements and Colon (1974) for a tropical forest situation. For those interested these are—  
For throughfall

$$y = 0.884P - 0.024$$

For stemflow

$$y = 0.077P - 0.038$$

where P is the total incident precipitation.

**"If one considers the number of litres which drain down in stemflow in daily tropical rains it is not too difficult to equate this with the strength of fertiliser solutions given to orchids in culture once every two or four weeks."**

**The Role of Epiphylls.** Tree and other leaves in humid forests (and in glasshouses) accumulate a 'micro-flora' on their surfaces. These micro-flora (which are not all flora) are more correctly termed epiphyllic organisms and consist of bacteria, fungi and cyanochloronta (often called cyanobacteria or blue-green algae, which they are not) and possibly lichens and liverworts.

When discussing this subject I am reminded of that old ditty 'Big fleas have little fleas on their backs to bite 'em, Little fleas have lesser fleas and so ad infinitum'.

Wirkamp (1970) by using radioactive elements, showed that epiphyllae retained from 1.7 to 20 times more of the mineral element than that part of the leaf from which the epiphyllae had been removed. Some of this nutrient may be passed into the leaf tissue as foliage fertilisation or remain as part of the leaf litter and so enrich this. At least some of the epiphyllic organisms can fix nitrogen and work by Edmisten (1970) showed that some radio-active nitrogen, so fixed, was transferred to the host leaf within the 48-hour exposure period. The epiphyllae nitrogen content was five per cent by dry weight, three times that of the leaves, nevertheless the fixation and transfer of nitrogen into the leaf could be a significant input of nitrogen to the plant. This ability to fix nitrogen by epiphyllae is probably why the nitrogen content of leaf litter in tropical forests is relatively high and compares with calcium in this respect. This high nitrogen value reduces the C:N ratio and permits rapid decomposition of the litter as described previously. While nitrogen is not a mineral element its presence is so vital to life that it is not unusual to incorporate nitrogen into studies of mineral elements and nutrition.

**Conclusion.** This paper has attempted to review some known aspects of tropical forest mineral cycling in a quantitative manner. Very little work, specifically on orchids, has been done in this field so we can do little more than chart the boundaries of our ignorance. However, there

are sufficient data in the papers quoted to enable us to speculate on the nutrition of epiphytes in the wild, sufficient perhaps to act as guidance material for future investigators and authors writing on this subject.

Table 1  
Distribution of Orchids Within the Host Tree.

Section	Description	Percentage of Orchids
I	Base of trunk up to three metres.	8.9
II	Trunk from three metres to point of first branching.	10.9
III	Basal part of large branch one-third of total branch length.	27.7
IV	Middle part of large branch one-third of total branch length.	48.5
V	Outer part of large branch one-third of total branch length.	4
		<hr/> 100.0%

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# HIGH FINANCE IN NEW ZEALAND

## *Growers Forming Public Company*

A group of New Zealand orchid growers are forming an eight million dollar public company. It will trade as Greenhouse Park Ltd.

The company is acquiring a twenty-hectare site at Katikati district of Tauranga and intends to build 76,900 square metres of growing houses. These will be enclosed with a double plastic skin with air separating the two layers.

Tauranga is in the North Island volcanic belt. The growing house site has adequate hot thermal water to supply heat. Drilling has located hot water at 500 metres of 49.50°C capable of delivering 22,000 litres per hour. This water will be recycled for use as cold water.

Two of the promoters, Messrs Dan Collin and Alan Petersen, are established export growers in the Tauranga area.

Mr Collin is ex-president of the marketing arm of Gallup and Stribling. He migrated to

New Zealand in 1980 convinced that Tauranga was the most favourable spot in the world to grow miniature cymbidiums and paphiopedilums.

Mr John Crownshaw, a retired navy lieutenant-commander has also become involved in the project. Extensive link-ups have been made with marketing groups, including a New Zealand mail order gardening firm Parva, whose principal, Mr Stephen White is joining the venture.

AOR is indebted to Mr Barry Collins for a clipping from the financial page of a New Zealand newspaper with details of this company formation.

The production capacity of an organisation of this type will be enormous. This is happening in Japan, South Africa and the Canary Islands, and, of course, Australia. Effective sales promotion on a big scale will be a must for the very near future.

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# Orchid Growing in Japan

R.W. (Bob) NICOLLE

In 1986 the largest contingent of Japanese orchid growers ever to leave Japan will converge on Adelaide for Orchids Australia '86 to attend the 10th Australian Orchid Conference and International Orchid Show. The reason for this influx of orchid growers from Japan is the opportunity to see the latest and largest selection of new cymbidium orchid hybrids available anywhere.

Fifteen years ago the Japanese orchid industry was almost non-existent. Today it is by far the most highly-developed and sophisticated in both production and scale of any orchid pot-plant industry.

The total production of pot-plant cymbidiums in Japan in 1984 was approximately two million, consisting of standard cymbidiums in 25 to 30 cm pots 15 per cent and increasing rapidly; intermediate cymbidiums in 20 cm pots 60 per cent and increasing; miniature cymbidiums in 15 to 18 cm pots 25 per cent and decreasing.

The pot-plant cymbidium industry in

million plants. Management of Japan Orchids which consists of Takaki Nursery in Hiroshima, Takai Mericlone, Mukoyama Orchid Garden and others supplied approximately 900,000 plants. Others consisting of Magami Orchid Gardens, Miura Mericlone, Akatsuka Botanical Garden, Takaki Nursery in Chiba, Ono Orchid Garden and others supplied approximately 300,000 plants.

Of these laboratories only one produced 100 per cent of his production from his original plants, Takaki Nursery in Hiroshima. Takaki is probably the second largest laboratory in Japan, but his stock of parent material in all genera is bewildering. He is just completing a new laboratory which should enable him to increase his production of CP-size plants.

Kawano Mericlone Co Ltd produces approximately 90 per cent of his CP plants from his own original stock and Kawano have the capacity and intention of doubling their production over the next 12 months.



*An orchid plants' auction at Nihon Yoran in Nagoya.*

Japan works in the following way: tissue culture laboratories produce what is known as CP plants. These plants are sold to pot-plant growers directly or through an auction. The growers in turn sell the flowering plants to a retailer through the auction.

In 1984 approximately 3.2 million CP-size plants were sold in Japan. These were supplied by three major suppliers. Kawano Mericlone Co Ltd, by far the largest and most efficient, supplied approximately two

Pot-plant growers buy their CP-size mericlone plants generally from the auction which may take 10 to 20 per cent commission for small plants. CP plants are supplied as 20 plants in a 10 cm pot with a leaf length of five to 10 cm approximately one to three months from the flask. The maximum price in 1984 was 150,000 Yen per 500 plants (Australian \$2 per plant). The minimum price was 50,000 Yen per 500 plants (Australian 75 cents per plant).



The average production per pot plant grower is approximately 10,000 flowering pot plants per grower every year. To do this the average grower would need to have 2,500 to 3,000 square metres of heated growing space and, in addition to his family, he may have one to two part-time workers. Each year he sells about 10,000 flowering pot plants and purchases 10,000 CP plants.

On purchasing his CP plants, he will generally repot the plants into eight to 10 cm pots. After twelve months the plants will be transferred into 10 to 12 cm pots

in the growing areas rarely exceed 30 degrees Celsius. While the plants are on the mountains they are grown under shade cloth supported on frames similar to the method used in Australia.

Another culture technique that is popular in Japan is growth pruning. When a cymbidium produces more than one growth on each side of a bulb the weaker growth is removed. It is not uncommon to visit a Japanese grower after this process has taken place and find the floor of the greenhouse covered with growths 10 to 20 cm.



*Bob Nicolle and Harry Nagata, who will be speaking at Orchids Australia '86, in the Nagata family's garden.*

and after two years the plants are normally transferred into glazed ceramic pots of about 15 cm diameter for sale in flower the following year. This technique produces early flowering and compact plant growth.

The plants one year from flowering are given sufficient space so that none of the leaves of an adjoining plant will touch or shade the plant next door. The potting mix is usually based on coconut fibre and the fertiliser is generally a mixture of bone meal and rape seed. After three years, providing the plants are good varieties, all 10,000 pots will have flowered.

Most Japanese growers use what is known as "The Mountain Technique" which involves shifting all of their plants from CP size to flowering size to the mountains to an area which has cooler air and less humidity. This transfer normally takes place around June each year and most of the plants are back from the mountains by September. This procedure is amazing when you consider that the average trip to the mountains is two hours and temperatures

Land in Japan is very expensive, even land in the country can be worth up to \$150 Australian per square metre which is about \$1.5 million per hectare. For this reason there are very few people who are not land-owners (farmers) moving into the industry.

Growers sell their flowering plants to the retailer via auctions. The usual commission for flowering plants is 10 per cent. Two of the largest auctions are in Nagoya and the largest is probably Nihon Yoran in Nagoya which has approximately 20 per cent of the total market.

Nihon Yoran produces a monthly magazine which contains market reports which include all details of the auction including the total number of cymbidiums sold, the number of standards, intermediates and miniatures, the price for the various types and, it is interesting to note from their annual report, that cymbidiums are sold in flower all year round. The average price in 1984 was approximately \$A23 per pot for standards, \$A14 for intermediates and \$A10 for miniatures.

The ideal cymbidium for pot plant use in Japan can be any colour, however the natural spread of the flower should be greater than eight centimetres, the flower should be round in shape with over ten flowers per spike. The length of the spike should be 90 cm or less and the ratio of flowers to stem on a spike should be 45 cm to 45 cm. Spike habit should be upright and the colour of the leaves should be deep green. The length of the leaves should be 90 cm or less and the width of the leaf should be three centimetres or more. The number of leaves per bulb should be ten and the leaves should be erect. The length of the bulb should be eight centimetres or less and flowering time early, at least before Christmas. The number of spikes per bulb should be at least one and the lip should preferably have a solid bar. All these characteristics, of course, are for the ideal cymbidium and as yet this plant does not exist.

To name the most popular variety in Japan is difficult, because popularity depends on supply and price and generally the greater the supply the lower the price. However, the general consensus seems to be that the most popular three are the standard Melody Fair 'Marilyn Monroe',

In 1987 Japan will host the 12th World Orchid Conference in Tokyo from March 14 to 25. The official languages of the conference will be English and Japanese. I would recommend that any orchid grower in Australia who is serious about learning more about these fascinating plants should attend the 12th WOC in Tokyo. Japanese growers are very enthusiastic and friendly and Australians should have little difficulty travelling and communicating with orchid growers in Japan. Already the mayor of Toyota City and the director of agriculture in Atchi Prefecture have extended an invitation to Australian cymbidium growers to attend a special party after the World Orchid Conference.

At Orchids Australia '86 there will be two of Japan's leading orchid growers presenting papers, Takehiko Mukoyama from Mukoyama Orchid Gardens who have probably the most modern tissue culture laboratory in Japan, and Harry Nagata from Nagata Enge of Nagoya who is an international orchid celebrity and personality.

*Valley Orchids,  
PO Box 220, Morphett Vale 5162*



*Small cymbidiums growing at Nagoya.*

Valley Flower 'Cherry Ripe' and the intermediate Kenny 'Wine Colour'.

The retailing of cymbidium pot plants in Japan generally takes place in specialty florist shops or department stores. Department stores are generally the most expensive with prices for Valley Flower 'Cherry Ripe' for example ranging up to \$50 for a plant with two spikes.

Provisional registration brochures for the 12th World Orchid Conference in Japan are available from Bob Nicolle. Please send a stamped addressed 9x4 envelope for your copy.

Registration brochures for Orchids Australia '86 are available from the Conference Secretary, GPO Box 730, Adelaide, South Australia 5001.



## ORCHIDS AUSTRALIA '86

# *Superb Organisation Guarantees a Superb Conference*

Designated by the Australian Orchid Council as the Tenth Australian Orchid Conference 'Orchids Australia' is much more than that: It celebrates also 150 years of European settlement in South Australia and the international nature of horticultural orchid growing.

Orchids Australia '86 is international almost on the scale of a world orchid conference. The International Orchid Show will be staged on both floors of the huge Walter Duncan Pavilion at the Adelaide Showgrounds. Exhibits will be around the theme "Pioneering Days" to tie in with the sesquicentenary.

Conference headquarters will be in the beautifully-appointed, yet homely, Oberoi Hotel. Conference sessions will be held at the Oberoi and the Australian Mineral Foundation.

Australia's first set of orchid stamps will be officially launched in a ceremony at the Oberoi on Thursday, September 18. This special stamp issue results from the representations made to the postal department over many years by Mr Gerald McCraith.

Lecture sessions will be over two days and a truly international group of speakers will take part.

Among the speakers will be Ernest Hetherington who heads one of the world's largest commercial orchid operations and is a world authority on cattleyas; Ed Meeuwissen from Holland, an expert on commercial cymbidium production; Freida Duckitt, on cymbidiums in South Africa; and Udai Pradhan, India's leading grower.

A whole morning will be devoted to judging led by such knowledgeable folk as Andy Easton from New Zealand, Ray Bilton from England, John Miller from the USA and Geoff Browning of Australia.

Among the Australian speakers will be Keith Bennett, whose book on paphiopedilums was recently published; Wal Upton, leading hybridiser of native orchids; and Les Nesbitt, famed terrestrial grower.

Of course there are many other speakers too, and from all parts of the world. The list is an orchid who's who.

The morning of Tuesday 23 will be an AOC Judging Seminar and the afternoon will feature an AOF programme on the cultivation of terrestrial orchids.

There will be a number of one-day and other tours taking in the famous wineries and nurseries, scenic and historical spots. A three-day pre-conference tour to lovely Kangaroo Island is very special because an experienced guide will take participants to areas of terrestrial orchids.

As Syd Monkhouse writes: Orchids Australia '86 is one of two once-in-a-lifetime occurrences in 1986 — the other is Halley's Comet. Halley's Comet has therefore been adopted as the conference mascot and is featured on the conference logo.

There will be more about Orchids Australia '86 in coming issues. Also a special Orchids Australia '86 issue of Australian Orchid Review.

## *Unique Feature*

Among the many interesting features being organised for the 1986 conference in Adelaide is one which has not taken place at any previous Australian conference, a "Native Orchid Walkabout".

Members of the Native Orchid Society of South Australia will conduct tours into the Adelaide Hills. Small groups of registrants will be taken by minibus under the guidance of native orchid experts.

# ORCHIDS AUSTRALIA '86

Party members will be shown stands of native orchids so that they may admire and photograph them. The experienced guides will explain the names and botanical background of each species.

NOSSA members have been watching and conserving these colonies for years and their guidance will ensure that more orchids will be seen and photographed in a few hours that an outsider could hope to see in a week of looking.

This will be a friendly and informal feature of the Orchids '86 Conference. Interstate and overseas visitors will have an intimate look at remarkable native terrestrial orchids growing in the wild.

**Recipe for enjoyment.** The Orchids Australia '86 committee are planning to

ensure easy informality and opportunities for registrants to meet. They feel that the success of an orchid conference depends on the ability of orchid growers to mix widely, not only with fellow Australians, but with the many people from overseas. Thus there will be opportunities to learn not only more about orchids but about the people from other countries.

Orchid societies are invited to send for an eight-minute film on South Australia. It is available 8 mm and 16 mm, also on VHS and Beta Video.

You can have your name put on the Orchids Australia '86 mailing list for progress information by sending to: The Conference Secretary, GPO Box 730, Adelaide, South Australia 5001.

## AOR Back Copies

Mrs Marjorie Cornell has 118 copies of AOR for sale. These date from March 1954 to June 1983. Price \$1,000. Write to 2 Kings Avenue, Roseville, NSW 2069, or phone (02) 419 7531.

## Scottsdale Spring Show

The Scottsdale Orchid Society are holding their Spring Show on the following dates: Thursday, September 19, 1985, 1-6 pm. Friday, 10 am - 5 pm. Saturday, 10 am - 5 pm.

Secretary: Mrs Peg Kendall, George Street, Scottsdale 7254. Meets third Thursday at Kendall's Hotel.

●  
"It is believed that many orchids can be pollinated only by a single specific insect, such as a bumble bee. The pollinating agents in the Orchidaceae include bees, wasps, various flies and ants as well as butterflies, moths, beetles and snails."

— D.S. Correll.

●  
"The 'orchid eye' is quickly followed by the 'orchid fever' which is the least painful of all known fevers, and a most desirable and interesting ailment for all children to have."

— Dr R.S. Rogers.

## Sub-Tropical Orchid Council

Queensland orchid growers have overcome the problem of vast distances in very practical ways. They think nothing of organising bus trips to visit a society two or three hundred kilometres away. More importantly they have organised regional councils on an area basis encouraged by the Queensland Orchid Society.

The first such group was the Tropical Queensland Orchid Council formed over twenty years ago, followed by the Sub-Tropical Orchid Council soon afterwards. Another regional group was formed last year, the North Moreton Queensland Orchid Council, and has recently held a very successful show.

The Sub-Tropical Orchid Council counts among its member societies Caboolture OS, Glasshouse Country OS, Sunshine Coast OS, Maryborough OS, Noosa OS, Gympie OS, North Coast OS, Bundaberg OS, Hervey Bay OS and Maroochydore OS. Hope none have been left out. AOR doesn't often hear from some of these societies, and considering they are so active this is a pity. How about a few reports from STOC members. Your area abounds with good growers and you have a wonderful district to tell the rest of Australia about.



# A Visit to the Solomon Islands and Australia

Dr P.J. CRIBB

## The Solomon Islands

### Aims:

1. To obtain a better understanding of the orchid flora of the Solomon Islands preparatory to updating "A Checklist of the Orchids of the Solomon Islands and Bougainville" by A. Thorne and P.J. Cribb (1984).
2. To identify the recently-discovered slipper orchid (*paphiopedilum*) on Guadalcanal, and to collect plants and seed to propagate it artificially thereby ensuring that it is not stripped from the wild by unscrupulous collectors.
3. To study particular orchid genera in the wild preparatory to their taxonomic revision.

## Guadalcanal

Altogether one hundred collections were made of herbarium and living specimens, mostly of orchids. Of outstanding interest was the collection and identification of the slipper orchid *Paphiopedilum wentworthianum*, at the extension of the range of the genus.

It is an attractive orchid with a large flower. It is also very rare and because of its horticultural merit, potentially endangered and deserving protection.

Collections of two species of *Dendrobium* sect. *Oxyglossum* will prove invaluable to current studies of this section at the Royal Botanic Gardens, Edinburgh. A collection of the saprophyte *Corsia* on the Chaunopaho represented only the third collection ever of this genus in the Solomons.

A collection of a wild *Vanilla* sp. on Mt Chaunopaho represents only the second collection ever of the genus in the Solomons, and the first from Guadalcanal.

## Western Solomons

Eighty collections were made on three islands — Kolombangara, New Georgia and Rendova. The visit to Kolombangara was the most extensive and the central

volcano was climbed from Vanga.

The forest from 400 metres has been left unlogged. Unfortunately, that below 400 metres has been virtually entirely removed by logging.

Notable collections included the second ever of *Corybas mirabilis* from Kolombangara where a new *Acianthus* and two *Mediocalcar* species were also collected. Perhaps more surprising were three *Dendrobium* sect. *Oxyglossum* species different from those on Guadalcanal. This raised from two to five the number of species of this section recorded from the Solomons.

The rare saprophyte *Corsia* was collected for the first time on Kolombangara.

## The Herbarium

The orchid specimens in the Herbarium in Honiara have been studied. Unfortunately, about half have been destroyed by insects as the collection has not been fumigated in recent years.

The value of this collection cannot be overestimated. It is a record of the plant resources of the Solomon Islands which has taken many thousands of man-hours to assemble. It will be completely lost unless urgent action to maintain it properly is taken.

## Conclusions

- (a) The Solomon Islands are much richer in orchids than had previously been suspected. About half the orchids collected on this brief visit have not been previously recorded for the Solomons. Some will undoubtedly prove to be species new to science.

It must be concluded that many more than the 230 species presently recorded from the Solomons (Thorne and Cribb 1984) are to be found in these islands. If this is true of the orchids, a relatively well-studied group, then it indicates that the herbaceous flora as a whole is poorly known.

Further botanical exploration is urgently needed in view of the extensive logging of many richer areas. Shifting cultivation is also destroying many rich areas such as Mt Austen.

- (b) Several species of Solomon Islands' orchids are attractive and of horticultural merit. Some of these undoubtedly need protection to prevent their extinction in the wild.
- (c) A major source of information on the plants (including the orchids of the Solomon Islands) to be found in the Herbarium situated in the Botanic Gardens. It contains many valuable specimens including types and represents thousands of man-hours of work in its compilation and curation. Unfortunately, it has been neglected and many specimens have been eaten by insects. Urgent consideration should be given to the regular fumigation of the specimens with a powerful insecticide. Consideration should also be given to the proper curation of this collection which is, in effect, an inventory of the plant resources of the Solomon Islands.
- (d) The Botanical Gardens, in a magnificent site, are also neglected. They could provide an excellent facility for teaching islanders about native and exotic plants, their biology and uses. Many plants of the forest are used for food, medicine, building and so on. It seems likely that the uses of many native plants are not yet well enough documented.

## Australia

Lectures on current orchid research at Kew and the Solomon Islands project were given, two in Melbourne and one each in Vanuatu, Sydney and Canberra.

I visited the National Botanic Gardens at Canberra to see Mark Clements, and to discuss with him aspects of the current research programmes at Kew and Canberra on endangered orchids and their reintroduction to the wild.

Four days were spent in the field looking at native orchids. Through the kindness of Mrs Helen Richards, I spent three days in south and central Victoria.

While there, I saw about 60 species of terrestrial orchids including *Calochilus richiae*, known from a single locality where a maximum of 20 plants survive.

In a day trip from Canberra to Batemans Bay with Mark Clements a further 25 species mainly epiphytes, were seen including *Sarcochilus falcatus* and *S. australis* in full flower.

Mrs Richards and the Victorian Native Orchid Society kindly donated a fine copy of the rare first edition of Nicholls' "Orchids of Australia" to the Royal Botanic Gardens, Kew. This work is now virtually unobtainable and is valued at several hundred pounds.

The National Botanic Gardens, Canberra donated several rare books to Kew and two specimen plants of *Dendrobium speciosum*.

## Acknowledgements

I would like to thank the Solomon Islands Government, the Ministry of Mines, Energy, Forestry and Conservation and, in particular, Mr Henry Isa for permission to visit and collect in areas of C. & W. Provinces; Messrs Geoffrey Dennis, John Campbell, Peter Bullen and Graham Chaplin, for their help and encouragement in the field. Mr G. Hermon Slade, and the Australian Orchid Foundation whose generosity enabled this visit to take place; and the Director of the Royal Botanic Gardens, Kew, for his support.

"Goodale Moir is quick to point out that growing species in cultivation does not allow natural evolution to take place, but neither can it take place where the species no longer exist. We are too rapidly destroying nature's gene pools, robbing future generations of what might come about through future evolution."

Rebecca Northen in *Orchid Biology III*.

Select orchids carefully before purchasing. Buy what you like — not because it's an orchid that has been offered to you for purchase, they are not a scarce commodity! Until you become familiar with diseases of these plants don't buy plants with black spots, marks on the leaves, or with pale-green flecking particularly when present in new leaves. *Tasmanian OS Newsletter*.



# ORCHID SOCIETY OF NSW

## 7th Regional Conference

Gosford OS is the host society for this social event of 1985. The famous Florida Hotel on Terrigal Beach is the venue. Date is the weekend of October 19 and 20.

Mr Andy Easton, one of the world's leading cymbidium hybridisers, will be coming from New Zealand to tell about the latest trends in miniature cymbidiums. Andy has some provocative and stimulating ideas. Having lived in America for some years, and made frequent trips back, he knows what the nurseries there are doing. Andy will only be here for the conference before leaving for America so this will be your only chance to meet him and learn from him.

Seminar sessions will cover themes such as "Cool-growing Orchids", "Species Growing" and "Flowers all the Year". Each of these themes is spot on the needs of hobby growers. Panel leaders include top people seldom heard on the lecture circuit such as Peter Hind, Phil Spence, Jack Jannese, Peter Taylor, Don Stephenson and Vic Madden.

A video of the American Orchid Society film "The Wonderful World of Orchids"

will be shown during the conference, by courtesy of the Queensland Orchid Society. This will be its first and possibly only showing in NSW.

The registration cost of \$60 includes Saturday night's banquet, lunch, refreshments, proceedings and some drinks, and some surprise items.

A show and exhibition will be held in the Neptune Room, with cut flowers eligible in some classes. If the registrar, Mr Les Peaty is notified (phone (02) 654 1471) and sufficient judges are present plants can be considered for awards.

On Sunday there will be two half-day tours and a T-bone barbecue at the Florida. The tours will cover scenic, historical and orchid nurseries, wildflower areas where normally wild orchids may be seen. Cost for the day covering two hours and barbecue is \$15. The Florida is reserving all accommodation for the weekend for registrants only.

For programme and registration form send to Mrs M. Trotter, Conference Secretary, PO Box 541, Gosford, NSW 2250.

## An Unusual Flowering

During October 1983 a crossing of *Sarcophilus ceciliae* and *S. fitzgeraldii* flowered. The spikes, slightly pendulous, carried eight to nine semi-cupped flowers approximately midway between both parents, and with outstanding colour, very dark on the outer segments and fading towards the centre.

It was decided to cross this with the Blue Nob form of *S. hartmannii*, of erect growth,

upright spike habit, pure white flowers with heavily-marked red centre.

About twelve months later the capsule was removed and the seed flaked. The plantlets grew steadily until early July 1985. While browsing among the flasks it was discovered that one of the cross was flowering in the flask. Plants were five to 16 mm in size, with flowering one about 12 mm. The flower was the same size as the plant and a beautiful mauve-lilac colour. The plants had only been replanted two months previously, and its life from seed to flowering only nine months.

Bill Skillicorn in  
ANOS Newcastle Group Bulletin.

# The TQOC Conference

TED BOON

Over the Queen's Birthday Weekend (June 8-10), the Townsville District Orchid and Allied Plants Association hosted a very successful 20th Tropical Queensland Orchid Council Conference. Registrants attended from Sydney through to Cairns and the Tablelands, including patron Frank Slattery and Jean who have not missed a conference since its inception in 1965.

On Friday evening, a get-together was held for early arrivals at the residence of Bert and Gery Verheyen.

On Saturday after registration and lunch at the Italo-Australia Club there were afternoon lectures. These being: *Foliage Plants*, Mrs M. Easterbrook; *Colour in Orchid Hybridising*, Mr P. Pavia and *Microwaving for Floral Art*, Mrs J. Slattery. All excellent lectures and well attended.

On completion of lectures, setting up of competition plants, orchids and foliage, and floral art took place with judging at 6 pm. A wide selection of genera was tabled although a number of sections were deleted due to weather conditions previous to the conference.

Trophy winners were: Cattleya (Labiata), R. and D. Piltz. Cattleya (Novelty), P. and R. Merritt. Vanda, M. and T. Keith. Dendrobium, R. Nicholls. Phalaenopsis, T. and L. Verran. Oncidium Alliance, T. Boon. Species, T. Boon. Any Other Orchid, D. and K. Greenway. Cut Flowers, M. Edgerton. Best Specimen Plant, T. Boon.

Winners of Frank Slattery Trophy, R. and D. Piltz.

Winner of Rod's Place Trophy for Aggregate Points, T. Boon.

Some 100 attended the conference dinner with the deputy mayor, Alderman Tony Mooney, officially opening the conference,

speeches followed by F. Slattery, Ron Bassan, TQOC president and the TDOAPA president welcoming everyone.

Presentation of trophies followed and then the turn of our special guest, Dr Betsy Jackes who gave a very enjoyable and interesting after-dinner talk "Off the Bitumen and Beyond".

Sunday saw the business meeting of the conference and the annual general meeting. This was followed by an afternoon of bush-housing. Five collections were visited where numerous well-grown orchids, foliage plants and bromeliads were viewed. Collections visited included T. Boon, Mrs J. Rossow, D. and K. Greenway, T. and T. Kapcelovich and T. and L. Verran where a welcome cuppa was served.

The evening function included a barbecue, supplied by TDOAPA, and a plant auction, followed by supper. The auction, conducted by Mr J. Wallis, Innisfail, provided some hilarious moments with participants "forcing" up bids and getting caught. The auction was a great success with over \$700 being raised for the TQOC funds. Our sincere thanks to Frank and Jean Slattery for their generous donation and congratulations to the two successful bidders.

Monday saw registrants with a free day to visit local nurseries and journey home. The association thanks all who attended and those who assisted in making this a successful and enjoyable conference. Our thanks to Frank and Jean Slattery for their participation. It is always a pleasure to see them.

A funny ending to the auction came to light a few days later and could be entitled "How to Repot and Feed an Orchid". The Italo-Australian Club contract chef was one of those who joined in the bidding and purchased a white cattleya which was not really secure and unfortunately fell out of the pot. Report has it, the gentleman took it back into the kitchen and tipped all the potting material onto the table and proceeded to repot the plant and apparently did a good job. When someone went to assist him, there was the plant sitting upright in a pot of crumpled-up cake which had also been watered. A simple case of what's good for humans is also good for orchids? Well . . .



The Mornington Peninsula Orchid Society's Winter Show was a little down on number of plants but the quality stood out. Champion was a well-grown *Cattleya* Bow Bells 'Michael Barnett' exhibited by Barbara Walker, and Novice Champion was a clone of *Cymbidium* Arcadian Melody x *C. Fanfare*, grown by Steven Midwinter.

## Albury-Wodonga's Big Spring Show

This young society is organising for a really stupendous show. It's called the Australian Inland Championship Orchid Show and the society is offering TOP PRIZE MONEY.

Champion Orchid will receive \$100, a trophy and sash. Reserve \$75 and sash. Best Cymbidium, Best Native, Best Any Other Orchid will all receive \$50, a trophy and sash.

In addition there will be a \$25 prize for each of these classes: Best Specimen, other than Native; Best Miniature or Intermediate; Best Novice; and Floral Art.

The show is over the weekend, October 12 and 13. Members of other orchid societies are cordially invited to exhibit and/or attend. Albury-Wodonga Orchid Club would particularly like to see entries from other inland societies such as Griffith, Wagga and Shepparton, even Canberra.

What a marvellous chance for inland societies to get together. Why not have a minibus trip for members and plants for the weekend!

For show schedules send SAE to The Secretary, Albury-Wodonga Orchid Club, 665 Jones Street, Albury, NSW 2640.

## Gosford OS Winter Show

*Paphiopedilums* dominated this neat little show held at Marketown Shopping Centre, Gosford. Many genera gave colour to the display but the main winners were the paphs. Grand Champion was *P. Anena's* Winston 'Battle of Britain' exhibited by Royale Orchids. Reserve Champion went to a cross between *Paphiopedilum* John Hanes and *P. Gigi*, and the winner was fifteen year-old Michele Trotter. Michele has given her clone tender loving care since it was a seedling and thoroughly deserves her win. The lesson for novice growers is that they only have to try. Best Specimen went to a huge pot of *Paph. insigne* simply alive with flowers, grown by Mr A. and Mrs M. Waters.

The society sold many plants for members and ran a very successful raffle.

## Flowering Softcane Dendrobiums

I see in my copy of the VOC Bulletin that Ron Pearce has an article on the culture of softcane dendrobiums where he recommends the use of Di-hydrogen Orthophosphate ( $\text{KH}_2\text{PO}_4$ ) two or three times at fortnightly intervals to help them initiate flower nodes. For the information of our members it's not the sort of stuff you will buy from your hardware shop or plant nursery and if you ask them for it they will probably call the drug squad. Your local chemist possibly won't be much help either — so where do you get it? Well, it's an ingredient of most orchid seed-growing mediums and I did buy some a few years ago from Messrs Selby & Co, and I would imagine they still keep it. As not very much of it is needed maybe our plant sales table might be able to buy some and sell it in smaller lots to members. The dilution rate is half a teaspoon to four litres of water. It was first recommended for this purpose some years back by the late Russell Martin.

*Arthur Knight in the Melbourne Eastern OS Bulletin.*

## Sub-tropical Orchid Council Meeting

The next STOCQ meeting will be held at Bundaberg in the TAFE College, November 2, 1985, with Bundaberg OS as host society. Ted Gregory will be guest speaker.

A proposal is in hand to hold a conference and show in September 1988, and a steering committee has been formed. The council has a long record of efficiency so further developments concerning this proposal are bound to be interesting.

## NZ International Conference

The New Zealand Conference at Wellington is almost here and it seems there will be a good attendance from Australia. The New Zealanders are wonderful hosts and it is certain that everyone attending will have a wonderful time. This conference is a dress rehearsal for the 13th World Orchid Conference to be held in New Zealand during 1990.

Congratulations and good luck New Zealand.



# Rockhampton Hosts Orchid Dabliance Weekend..

Colin Hamilton

Over 200 orchid growers gathered in Rockhampton on May 4 and 5 to simply 'dally with orchids'. The weekend was hosted by the Rockhampton Orchid Society and was the fourth such weekend to be held. Guests came from orchid societies extending from Tully in the north of Queensland to Coffs Harbour, NSW, with representatives of over 20 different societies.

Held every two years, these weekends have gained quite an enviable reputation. But in the past attendance had been around the order of one hundred. This year Rockhampton went all out on promotion, and the numbers doubled. In fact it was said that the number attending the dinner/dance on the Saturday night more than favourably compared with major national functions. This, of course, meant a lot of forward planning by the Rockhampton Orchid Society committee (promotion of the event began 12 months earlier), and a military-style operation in the bush-house touring, and catering. The touring took in 14 orchid collections with four different itineraries criss-crossing the city.

John Oxley District (Brisbane) and Mackay Societies arranged bus loads to attend, and a contingent of 10 travelled from Tully. Others arrived by road, rail and air.

Saturday, May 4 dawned a beautiful bright sunny day, autumn warm. Four buses set off from Woolworths Northside Plaza shopping centre at 12.30 pm, on four different routes around Rockhampton, visiting the collections of local growers. Rockhampton prides itself on its orchid collections, including many large ones. In the afternoon, the Rockhampton Society members also provided tea for the visitors at the residences of Dr and Mrs Greg Williams, and Mr Rod

Elder, society president and Mrs Elder.

The dinner that night was a lavish smorgasbord of tropical delights, including seemingly unlimited supplies of local prawns and bay bugs, and a suckling pig, hot and cold dishes, followed by mouth-watering pavlova and steaming plum pudding of the type grandma makes at Christmas.

A feature of the evening was an auction of donated plants of quality. The star lot of the night was "The Hazel Boyd Collection", a box containing a collection of five different clones of *S/c.* Hazel Boyd. Auctioneer, Brian Maxwell, called for bids and there was a flurry of activity around the room. As the bidding passed \$100 the noise abated. The big crowd was hushed as bidding reached \$150, but erupted again as the lot was knocked down to a grower from Gladstone at \$165, for the four two-inch and one three-inch pots. The buyer received a round of applause from the appreciative crowd.

Throughout the evening, dinner and dancing was accompanied by a musical trio with a hearty helping of good old-time dance music.

Sunday morning was fine but cloudy when the buses departed on a full-day touring and eating! Lunch, morning and afternoon tea was served in the assembly hall of the North Rockhampton High School, arranged by members of the Rockhampton Branch of the Equestrian Federation of Australia. Scattered showers passed over Rockhampton during the day but did little to dampen the enthusiasm of the participants, who seemed hell-bent on simply enjoying themselves and the day.

One of our now famous multi-draw raffles was held following the afternoon tea with the number of winners taking over half an hour to be drawn out of the barrel.

With a short speech of thanks to all those who participated in the weekend by president Rod Elder, the weekend came to a close. Some stayed on for another day (the Labour Day public holiday in Queensland), whilst others were delivered to rail and bus stations to begin their trek homewards.

It was obvious that the weekend provided a great deal of enjoyment, fun and fellowship, as well as an opportunity to renew acquaint-

ances and to make some new ones. The whole idea of the weekend had been one of relaxed informal enjoyment, no lectures, just a good time. It seems we succeeded from all accounts.

For those who could not attend, the Rockhampton Orchid Society will be hosting another of these weekends in May 1987.

*103 Menzies St, North Rockhampton 4701*



*Attending the May Weekend of Orchid Dalliance in Rockhampton were (1) Colin Hamilton (Rockhampton), points to a plant of Blc. Lucky Strike 'Viraponse' to Robyn Godbehere of Tully (front), watched by Joan McKane (Nambour), Ollie Anderson (Coffs Harbour) and Edward McKane (Nambour). Photograph by courtesy of the "Morning Bulletin", Rockhampton.*



# UNDERGROUND ORCHIDS

## The Unveiling of Mysteries AOF Offers \$500 Reward for Finding *Cryptanthemis slateri*

RONALD KERR

Patient research is revealing some of the wonderful story of the West Australian underground orchid *Rhizanthella gardneri*.

The type specimen was found in May 1928 by Mr Jack Trott while ploughing on his farm at Corrigan. The specimen was sent to famed South Australian orchidologist Dr R.S. Rogers by Mr Gardner of the WA Herbarium.

Dr Rogers put it into a new genus, *Rhizanthella*, meaning 'flowering on the root', and named it after the WA government botanist.

The species was found on only a few occasions up to 1979, and many came to believe it to be extinct. However in May 1979 it was found by chance in recently-rolled but still unploughed land at a farm near Munglinup. Checks of the area by Mr A. George, then of the WA Herbarium, and by Dr Kingsley Dixon and Professor J.S. Pate of the University of Western Australia, resulted in more specimens being found.

Because plants up to that date had been found growing in association with *Melaleuca uncinata* satellite photos were used to check the remaining habitat areas of this species. This led to success over a wide range of area.

Since then money for research has come from World Wildlife Fund Australia, the WA Department of Fisheries and Wildlife, and the Australian Orchid Foundation.

Although many factors have still to be followed through some dramatic discoveries have been made.

In a study of its life cycle it has been cultivated from seed *in vitro* and flowered on two occasions. Once by Dr J. Warcup, and also by Dr Dixon and Professor Pate.

An investigation of pollinators has resulted in evidence of pollination by a termite and by a small fly.

Nutrition has been studied *in vitro* using radio-active tracing techniques. Soil samples from each orchid site have been analysed by atomic absorption spectrophotometry for a range of nutritive elements, including sodium, calcium, phosphorus, potassium, nitrogen and a range of trace elements. Fungal materials were also collected for investigation.

The results of these studies will be published in *Orchid Biology — Reviews and Perspectives IV*, edited by Professor Arditti, now in press.

Dr Rogers created a new subtribe, *Rhizanthellinae*, to accommodate *R. gardneri*, and placed it in the tribe *Gastrodieae*.

When another underground orchid was found in NSW the Rev M. Rupp named it *Cryptanthemis slateri*, and placed it in Dr Roger's subtribe.

The question of the higher classification of *R. gardneri* has evoked recent discussion and is one of the reasons why re-discovery of *C. slateri* is very important.

Classification at the generic level of the two species also needs further study. Working at Kew from specimen flowers sent from WA and NSW herbaria Dr Phillip Cribb and Mr Mark Clements made an exhaustive comparative study of the two underground species. They concluded that there was little to warrant separate generic status and therefore they transferred *Cryptanthemis slateri* to *Rhizanthella slateri*.

In a recent study published in the June 1985 *Orchadian* Dr Kingsley Dixon does

not support uniting the two genera at this stage of knowledge.

Dr Dixon believes that detailed examination of *Cryptanthemis slateri* in the same way as its WA counterpart is essential before the determination, based on herbarium specimens and written material, made by Dr Cribb and Mr Clements can be confirmed.

Particularly important is study of *C. slateri* *in situ*.



It is now more important than ever to find further sites of *C. slateri*. Therefore the Australian Orchid Foundation is offering a reward of \$500 to anyone who can do so. Or any organisation such as an orchid society prepared to organise a search in their district.

The range of possible distribution is wide. The original discovery was at Bulahdelah in 1931, and it was again found there in 1932 and 1933. It has also been found at Wentworth Falls and Springwood on the Blue Mountains west of Sydney.

A chance discovery at Mallowa in the Lamington National Park indicates that there could be a distribution of about a thousand kilometres along the eastern side of the Great Dividing Range.

Mallowa is in Lamington National Park. A soil-erosion collapse on a walking track exposed the plant. Mr G. Kouskos was foreman of the gang sent to repair the path. He was examining the plant when Mr John Green of Casino happened to be passing. Mr Green, a solicitor, has been an ardent naturalist all his life and has contributed many articles on the orchids of the Macpherson Ranges to AOR. He recognised the plant immediately from photos he had seen in the June 1938 issue of this journal.

Mr Green took colour slides. Copies went to Brisbane and Sydney herbaria, and also to Dr Dressler of the Smithsonian Institute. One of the latter was published in Dr Dressler's book *The Orchids — Natural History and Classification*.

At a meeting of the Gosford Orchid Society I showed a copy of one of these slides, and also a black and white of Rev Rupp's photo. Mr Alan Peck was quite excited. He explained that when he was building his house at Narara, five kilometres north of Gosford, he had found the plant. He had been very curious about it but unfortunately had not realised the significance of his find. Mrs Val Peck confirmed the find.

So *Cryptanthemis slateri* must be around waiting to be found once more, and the AOF will pay \$500 to the finder.

The Bulahdelah area has been searched a number of times over recent years without success by myself and Mr Peter Hinds of the Sydney Herbarium, and also by Dr Dixon. Chance discoveries have undoubtedly been made during building or forestry operations but, like Mr Peck's, not reported.

May I suggest to the Far North Coast Orchid Council that they organise a field day in the Mallowa area, take Mr Green along and by arrangement with the Lamington Park rangers, conduct a search of the area.

Where to look. At Bulahdelah it was found growing among a stand of *Dipodium punctatum*. Rupp was convinced that there was not symbiotic association, although he did postulate that the two might be dependent upon the same mycorrhizal fungus.

In West Australia termites have been shown to be a pollinator of *R. gardneri* so areas near termite nests could be worth study. Also areas where erosion slips have occurred.

It is significant, too, that chance discoveries in WA and NSW have been in years of good rainfall, and 1985 has been a very good year for rain in the east coast area.

A small hand-sized garden fork is the accepted tool for searching, and all disturbed soil should be replaced. In WA all plants have been found within 30 cm of *Melaleuca*



*uncinata*, probably because the two plants share the same mycorrhiza, so digging should be in the vicinity of other plants, particularly *Dipodium punctatum*.

It is essential for orchid societies in the possible habitat area to publish details of the AOF reward in their bulletins and so make it more likely that a chance discovery will be reported.

**What to do.** A discovery should be reported immediately by phone to the Sydney Herbarium. Ask for Mr Don Blaxell or, in his absence the duty officer. Reverse phone cost. The number is (02) 27 4347.

Once a definite habitat area becomes known steps can be taken to have it declared a reserve to ensure conservation as well as scientific investigation.

## A Day in the Forest

Jack Miers in Parramatta Orchid Society Bulletin.

We strode down the beaten track made by native animals going down for water, through impeding gum suckers for about six hundred feet until the floor of the valley suddenly flattened out. There the trees grew tall and there were clumps of monolith rocks. Above the mountain peaks, huge towers of rock raised pile upon pile reaching skyward. The valley floor was completely covered with ferns and moss growing in the decaying mass of fallen leaves and limbs of trees. Covering the limbs of trees were monkey vines and a gathering of lichens and mosses.

Further up the valley the forest was enclosed by a wall of rock on both sides. Down the valley flowed a small stream gathering into large pools at intervals. Here a fantasy forest of weird-shaped gums, pigeonberry ash, sassafras and stunted myrtle, grew over and among huge rocks, their twisted roots emerging from minute crevices, or clinging tenaciously to the rough rock surfaces. Here is what we had laboured to see. Orchids in all their glory. Up on the rock walls *Dendrobium speciosum*, lower down *Liparis reflexa*, high in the trees *Dendrobium beckeri*, *D. teretifolium*, *D. aemulum* and *D. gracilicaule*. On lower limbs were *Sarcochilus falcatus* and *Sarcochilus olivaceus*. Hanging over the pools of water stags and birdnest ferns grew.

This walking was hard work and we were happy to rest awhile and fall into a passive mood and let the bush go on its way, living its own private life. It didn't seem to mind our intrusion. One of us sat quietly at the foot of a tree, the other on a decaying log. At such moments the bush is casting its spells on you. You breathe slowly. Time stops. A bird flits past. A distant raucous call of the crow.

The choral of magpie and currawong. Bellbirds, whip bird and others enjoying their songs, and, as they make high festival, the lyre-bird can mimic them all. The insects go on doing their thing. A snake or lizard may be present but does its doing quietly.

It is foolish for a man to think how superior he is. If he visits the bush long enough he will find that reverence is the only worthy attitude. Our young people should not be denied the privilege of knowing the bush that is their own true native land. It is not an easy task to know it and some may never. If modern man is to remain sane as time goes by he will need the constant influence that nature affords to balance the effect of the artificial de-personalisation that comes from modern city life.

# Conservation Flask Project

The Australian Orchid Foundation is sponsoring the sale of outstanding species in seedlings in flasks. Some of these species are extinct in the wild, others cannot legally be collected.

Flasks contain about twelve plants, and the cost is \$12 per flask. A number of available species was listed in the December and March issues. A few more are listed below.

Now that spring is here it is an ideal time to buy flasks. Most are now available for immediate delivery.

This list includes some fine natives:—  
*Dendrobium dicuphum* 'Album'. The seed is from two plants rescued from a road construction site outside Darwin. Both parents are a pure sparkling white with nice spike habit.

*Dendrobium ruppianum*. North Queensland. The seed was collected during timber logging in the Wallamin Falls area. The parent was a large-flowered form and flowers a nice creamy white. These seedlings should tolerate cool conditions.

*Dendrobium bigibbum* var. *superbum*. Fully-protected plant. Flowers a beautiful magenta purple.

*Dendrobium bigibbum* 'Album'. From a cross of two fine album forms, each with a touch of green in the throat. The seed came from the collection of a veteran North Queensland orchid grower.

From the December issue listing:—  
*Cattleya trianae*. Almost extinct in Colombia. Showy, with up to three 18 cm wide cream to rose flowers.

*Renanthera imshootiana*. Grows Assam to Indo-China. Fiery red or yellow flowers, long lasting. Warm grower. Keep dry before summer flowering.

*Cattleya rex*. Extinct in Peru and Colombia. Three to ten showy, whitish flowers with yellow throat.

*Cattleya schilleriana*. Dramatic for colour, a rich brown spotted with maroon.

*Dendrobium sanderae* var. *surigaenense*. From Luzon. Noted for huge flowers, white with red lip. Intermediate grower.

*Dendrobium trigonopus*. From Burma. Golden yellow.

*Eulophia decyiana*. Madagascar prohibits export. Terrestrial with annual growth cycle. Warm grower. Repot when new growth starts. Fast grower. Rest after flowering.

From the March list:—

*Dendrobium albo-sanguineum*. Rare, only recently re-discovered. Has two or three 10 cm white to pale yellow flowers.

*Oeoniella polystachys*. Madagascar. Like dwarf vanda, up to twelve white and green flowers. Fragrant. Likes humid conditions.

*Jumella major*. Madagascar. Fan-like leaves, responds to basket culture. Bears one sparkling white flower.

*Cattleya maxima*. Peru, Ecuador. Up to seven large showy flowers on stem. Rose to lilac segments and pale pink lip with purple veins, and a central yellow band. Export banned.

*Dendrobium cruentum*. Beautiful. Flowers in pairs from ripened leafless canes. Breeding potential.

*Cattleya porphyroglossa*. Tall with seven or eight flowers to stem. Segments waxy orange bronze to greenish. No longer obtainable from wild.

*Dendrobium fimbriatum* var. *occulatum*. India and Thailand. Grows cool. Orange with almost black eye.

*Oncidium cebolleta*. Mexico. Terete leaves and many yellow flowers.

## SEND NO MONEY

Do not send money with your order. You will be notified when order is ready for despatch. Flasks are \$12 each plus delivery costs. Air freight delivery to most postcodes in Australia is \$7 for one to 24 flasks.

Orders for these endangered specials should be sent to Ian and Pat Walters, 1419 Ross River Road, Kelso, Townsville 4810. No export.



# Orchid People

One of the most interesting and readable orchid editors around is Maurie Black who enlivens the lives of Warringal Orchid Society Bulletin readers each month. Maurie records a meeting accurately, dispenses topical and sound cultural advice, and reports the doings and welfare of members — all with a lovely sense of humour.

Not only that but Maurie also actively participates at meetings of Warringal and the Victorian Orchid Club. He has recently returned from his second trip to the orchid growers' Mecca called Hawaii and has been busy passing on all the interesting info picked up in those islands.

Maurie grows his orchids well and exhibits them with success. He grows a wide range of genera, and has a special love affair with phalaenopsis to the point where his wife could get jealous if she was not also heavily involved.

Alan Rushton of NSW's Central Coast is one of those quiet workers who has enjoyed growing orchids for over thirty years. Alan was an early member of the Berowra Orchid Society. With Laurie Svenson and Ron Kerr he was one of the trio which staged the first ever wholly native orchid display at an orchid show. That was in 1962 at the Sydney Town Hall OS of NSW Spring Show.

Alan still supports Berowra but since moving a few miles north has been an active member of Gosford OS and the ANOS Central Coast Group. For a time he was president of Gosford.

You can depend on Alan to hop in when there's work to be done, and to bench some beautifully-flowered native plants at the right time.

John Woolf of Florafest Nursery has been working on the genus *Disa* in Too-woomba, and with success.

His efforts have been centred around twenty *Disa unifolia* seedlings and one division of *Disa tripetaloides*. They are grown in fresh sphagnum moss kept moist

continually, and grown among the paphiopedilums in a fibreglass house.

Light is subdued until 10 am, then cattleya-type light. In spite of temperatures of up to 40°C the plants have not shown signs of a set-back, apparently because the moss is always moist.

Rain water has been used when possible, and at other times a 50-50 mix of rain and town mixture. Quarter-strength fertiliser has been used, with added quarter-strength Formula 20 and Physan twice a week all last summer. A fungicide is used fortnightly. John says that air movement is a must.

Flasking has been attempted. Maybe this is the start of a whole school of disa growers in Toowoomba.

Col Blackstock of Sydney's North Shore OS is one of our scientific growers. Col has applied his lab experience so successfully to his plants that they stand out on any bench. Considering the top growers in North Shore that's really something.

A notable example was his June flowering of *Cymbidium* Peetie 'Steadfast', a cross of *C. Sicily* and *C. San Miguel*. It was beautifully grown in only a 20 cm pot. The 17 glorious flowers on a 120 cm stem were each 125 mm wide. Tepals were a pale green with darker veining, and the cream labellum was covered in fine red spots.

As the NSOS Bulletin reported: "This fine June flowering shows how the quality of cymbidiums has improved over the past 20 years. The shape, size and texture of this cymbidium would have challenged, and most likely beaten, the September-flowering champions of the 1960's and 70's". Congratulations Col.

"No one in Australia has yet done anything substantial in cattleya hybridising," young Ross Maidment remarked to your editor, "but I intend to do so."

Ross couldn't have a better background. His parents Roy and Betty Maidment started a small backyard nursery from scratch. It

had grown into quite a respectably-sized nursery by the time Ross graduated about three years ago as a bachelor of agricultural science.

About this time too it had become too large for the backyard, so a move was made to a big block at Deception Bay, just north of Brisbane.

Thus Ross has everything going for him and his aim to make Australia a world leader in cattleya hybridising. Orchids have indoctrinated him since childhood, he has the scientific training, the resources to work on, the enthusiasm, and youth.

There will be some interesting developments in coming years at Aranbeem Orchids. As a matter of interest the nursery name comes from the initial letters of Ron and Betty Maidment.

Jim Male has been making a good job of editing *Les Orchidaes*, the monthly bulletin of Caboolture OS. It's newsy on all local topics and culture, with good background articles which obviously involve a deal of research. Because Jim is a delegate it covers the important activities of the Sub-Tropical Orchid Council of Queensland (STOCQ).

Now Jim has temporarily stepped down and is off with his wife Joan on a year or two caravan trip around Australia. You can bet they'll be keeping their eyes open for orchids on the way. Jim and Joan will be greatly missed but fortunately Caboolture is a strong society and should somehow be able to struggle through without them.

Everyone wishes you good luck Jim and Joan. Have fun. Don't worry too much about the orchids you left behind.

Chas Hill has been a worthy Australian Orchid Council president the last three years. He has put stupendous efforts into the job and has worthily represented Australia at the 11th World Orchid Conference.

During his term two Australian Orchid Conferences were held in Queensland. Both were outstanding and attracted many overseas visitors whom Chas helped entertain. The Townsville conference was particularly noteworthy for its show, social gatherings and scientific aspects.

All these activities plus interstate visits and the hard-slogging detail of council business made his term a particularly arduous one. All orchid folk are in his debt for the innovations he guided during his term, and we owe him gratitude for the way he has so effectively presented Australian orchidology to the world.

Thanks Chas. You will have earned a break and more time to enjoy your orchids.

## **Phaius**

The June issue of "*Phaius*", official journal of the Tropical Queensland Orchid Council, is full of lively gossip about member societies. Val Treloar continues the series "Browsing Through the Orchid House" in which the various characteristics and growing needs of whatever happens to be in flower are described in interesting fashion.

There's a nice article too on a trip to Thailand by Dorothy Harrison of Mackay OS. Beattie Yule writes on *Dendrobium crumenatum*, the beautiful one-day wonder, but unique because, along with *D. lingui-forme*, it was among the orchids which established the genus *Dendrobium*.

This journal keeps all members of the societies comprising the TQOC up to date on what is happening in North Queensland orchid matters, as well as data on area culture. Societies have it on sale for 50¢. With more support to increase circulation it has the potential to become a very influential publication.

## **Nambucca Valley Society**

This new society holds its 1985 Spring Show on Friday, September 6, 9 am to 7 pm, and on Saturday 7, 9 am to 5 pm, in the Nambucca Heads School of Arts Hall, Ridge Street. The Nambucca is an ideal area for most genera, and the wide variety grown by most members will be reflected in the show. All types of dendrobiums and cymbidiums will be represented in both quality and quantity, plus a strong showing of natives.

The society meets first Monday of the month, except January, in the CWA Hall, Ridge Street, Nambucca Heads. Visitors welcome. Secretary is Mr Bob Locke, 21 Jellicoe Street, Macksville 2447. Phone (065) 68 1880.



# Ira Butler Trophies for Native Hybrids

RUTH RUDKIN

Ira Butler was born in Mungindi and after graduating from Sydney University spent many years working as an economist with the Reserve Bank of Australia. He was a painter, photographer, bushwalker and ardent conservationist.

It was natural that when he became interested in orchids, his attention should concentrate on our Australian native orchids and their hybrids. His first hybrid was a remake of *Dendrobium* Bardo Rose, originally created by the late Bert Overall. This hybrid, made some 20 years ago was typical of Ira's work. The remake was far superior to the original cross, and to this day is eagerly sought after by hybridists.

He believed that if hybridisation can produce orchids with bigger and better flowers, then growers and exhibitors would leave the species in the bush where they belong, and concentrate on the new, more easily obtained hybrids. Ira's interest turned to our *Sarcochilus* and he became known world-wide for his work with this genus.

After his untimely death, John Stuart, Murray Corrigan and Phil Spence agreed that something should be done to encourage others to continue Ira's work. So the Ira Butler Trophy Committee was born. After consultation with other executive members of the Australasian Native Orchid Society, the concept was presented to the Orchid Society of New South Wales. With typical zeal, that society agreed to the proposal that a committee of seven should constitute the Ira Butler Trophy Committee, three members being from the OSNSW, three from ANOS and an independent chairperson.

There are three classes of trophies:

1. **Champion Australian Native Orchid Hybrid Trophy** presented to the winners in the Australian Native Orchid Hybrid class at the winter and spring shows of selected ANOS groups and the State Orchid Society in each State. Three photographic transparencies of the orchid must accompany each nomination for the award, showing

- (a) a frontal close-up of one flower,
- (b) a close-up of a side view of a flower,
- (c) the whole plant.

Only colour transparencies in 35 mm format are acceptable. The transparencies together with the requisite nomination form must be completed and forwarded to the committee by the date announced for that particular year.

2. **Champion Australian Native Orchid Hybrid of the Year Trophy** presented to the exhibitor of the plant adjudged by the Ira Butler Trophy Committee from all the plants nominated from the winter and spring shows of ANOS groups and State Orchid Societies. This plant will be judged only from the transparencies supplied with each nomination form. It is obviously of paramount importance that the photography be as specified, and of a very high quality to do the plants justice.

Any Australian native hybrid which has been awarded a FCC, AM or HCC during the year under consideration for an Ira Butler Trophy will be eligible to be judged for the Australian Native Orchid Hybrid of the Year Trophy. Nominations are to be in the same form as those from show winners.

3. **Ira Butler Trophy for Outstanding Achievement in the Development of Australian Native Orchid Hybrids** presented at the discretion of the committee to any person whose work in native orchid hybridising or related scientific endeavour is considered worthy of recognition. Such persons may be nominated to the committee either by others or themselves.

## Funding the Trophies

Early donations were made by orchid societies in Sydney of which Ira had been a member, North Shore Orchid Society, Orchid Society of NSW and ANOS Warringah Group. The ANOS Warringah Group continues to be the main source of funding for the trophies.

In an endeavour to increase our funding, committee members and friends donate plants for regular auction at ANOS Warringah Group and OSNSW meetings. Through the generosity of present and past committee members we have been selling seedling flasks of rare and interesting species and hybrids.

Increasing costs of the fine trophies, combined with ever-escalating postage, are imposing strains on our funds. We expect that participating societies and groups will help us with auctions, raffles or outright

donations if we are to continue.

We make this suggestion without diffidence, sure in the knowledge that we are doing something constructive in protecting our indigenous flora as well as giving encouragement and pleasure to all orchid growers.

Nominations and donations should be addressed to: The Secretary, Ira Butler Trophy Committee, 18 Lyle Avenue, Lindfield, NSW 2070 and nominations should be made immediately after a show or award.

## Bill Paddock Steps Sideways

Mr F.W. "Bill" Paddock has resigned as secretary of the Australian Orchid Foundation.

Bill is one of the grand men of orchids in Australia. From way back he was an indefatigable worker for the Victorian Orchid Club in various offices. He joined with Gerald McCraith right at the inception of the foundation and helped it through difficult birth pangs.

Not the least of these pangs were those involving legal and political matters. In order to make the Foundation an effective force it was necessary to achieve incorporation in a form which would make it possible to attract financial and worker support and ensure maximum support for measures to help orchid growers.

Initial proceedings dragged on for 28 months before this was achieved. The combined business experience of Bill Paddock and Gerald McCraith and their dedicated work made this possible.

In ten years the Foundation has raised tens of thousands of dollars and distributed it to worthy ventures in orchid research, exploration and publishing, all at infinitesimal overhead expenses. The value of Bill Paddock's secretarial work, and his work as treasurer, is so high that it cannot be estimated in monetary terms.

All Australian orchid folk owe a debt of gratitude to Bill and Gerald for the devotion they have put into founding and furthering the aims of the Foundation.

Fortunately Bill remains a director and

treasurer of the Foundation. He has merely stepped aside, not down. His vast experience will not be lost to the Foundation.

The AOF benefits in another way too because it has gained another worthy honorary secretary in Mr Peter Rushbrook, thus broadening its base.

Gerald McCraith has expressed his gratitude and thanks to Bill in a letter to all members of the Foundation.

Your editor knows that all those benefiting from the work of the Foundation will wish to add to those sentiments and also wish Bill many more years of interesting involvement with the Australian Orchid Foundation.

### Geelong Spring Show

The Geelong Orchid and Indoor Plant Club will hold a Spring Show over the weekend, September 28 and 29. Open on Saturday, 1 pm to 9 pm, and on Sunday, 10 am to 6 pm. Venue is the Centenary Hall, Cox Road, Norlane. Details from the secretary, Mr L.J. Dale, 88 Albert Street, Geelong West 3218. Phone (052) 9 7906.

The club meets first Thursday (except January) of the month at St John's Hall, 163 Ayers Street, Geelong.

"Slightly modified, the Linnaean conception of a species forms a convenient basis for systematic work. For economic reasons the subspecies is necessary. When it is propagated from pure cultures and carefully labelled, it is of undoubted value."

— Oakes Ames.



# BOOK REVIEW

## *Orchid Growing Illustrated*

This new book by Brian and Wilma Rittershausen has plenty of exquisite orchid illustration in colour. Many more in black and white show aspects of culture. The photography by Andrew Cooper is outstanding. Thus the book combines the pictorial impact of a coffee-table book with the practical features necessary to guide a hobby grower to success.

Part I deals with the physical characteristics of orchid plants and illustrations show the main horticultural genera. First the flowers, then the roots and leaves, are as shown, and the inter-relationship of all three explained.

Part II covers the practical aspects of housing growing orchids and also the decorative use of orchids in the home.

Large illustrations in Part III show plainly all aspects of repotting cymbidiums, cattleyas and paphiopedilums. Also basket and slab culture for suitable species. An interesting chapter tells how to prepare an orchid "tree", starting with a suitably-contoured and contorted branch. By carefully establishing a blend of cattleya, vandaceous and oncidium plants on such a tree branch a visual impact can be created which would be the talking point of a collection.

Propagation naturally follows potting and the various techniques are thoroughly demonstrated in pictures and text.

For those who require to know how to pollinate fine illustrations of the process will remove all doubt. Paphiopedilum pollination requires special treatment which is difficult to explain without demonstration, but the large illustrations in this book do so very well.

Flasking is dealt with in detail and although the illustrations show laboratory techniques their adaption to the kitchen methods is explained.

The same clear pictures amplify the written explanations of deflasking and planting out.

Unique among most modern orchid books is a detailed account of the nineteenth-century method of growing from seed by placing it around the compost of a "mother" plant. This can be an exciting project for a novice grower not yet ready to try flasking.

Tissue culture has fascinated all growers but most regard it as something for sophisticated specialists. With some genera this is very true, but the four illustrations and short text on the subject will encourage the experienced kitchen flasker to experiment with cymbidiums.

Part IV is titled *The Art of Orchid Growing* and it deals with those things necessary to ensure the best flower production, such as correct watering, feeding and control of pests.

A chapter on the care of flowers on the plant is excellent. Too often growers miss out at shows because flowers are poorly presented and this chapter shows the trick of effective presentation.

The book is only just now in the bookshops and the recommended price is \$24.95. It's good value and is recommended for growers and society libraries. A good Christmas gift too.

Published by Blandford Press, England and distributed in Australia by Capricorn Link (Aust) Pty Ltd, PO Box 655, Lane Cove 2066.

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### **Gippsland's Meeting Night**

The Gippsland Orchid Club Inc now meets on the second Wednesday of each month at 8 pm. Venue is the Traralgon Bowling Club Hall, Liddiard Road, Traralgon. Visitors are always welcome. Mr H. Jacobs is honorary secretary and correspondence should be addressed to him at PO Box 110, Stratford 3862. Phone (051) 45 6371.

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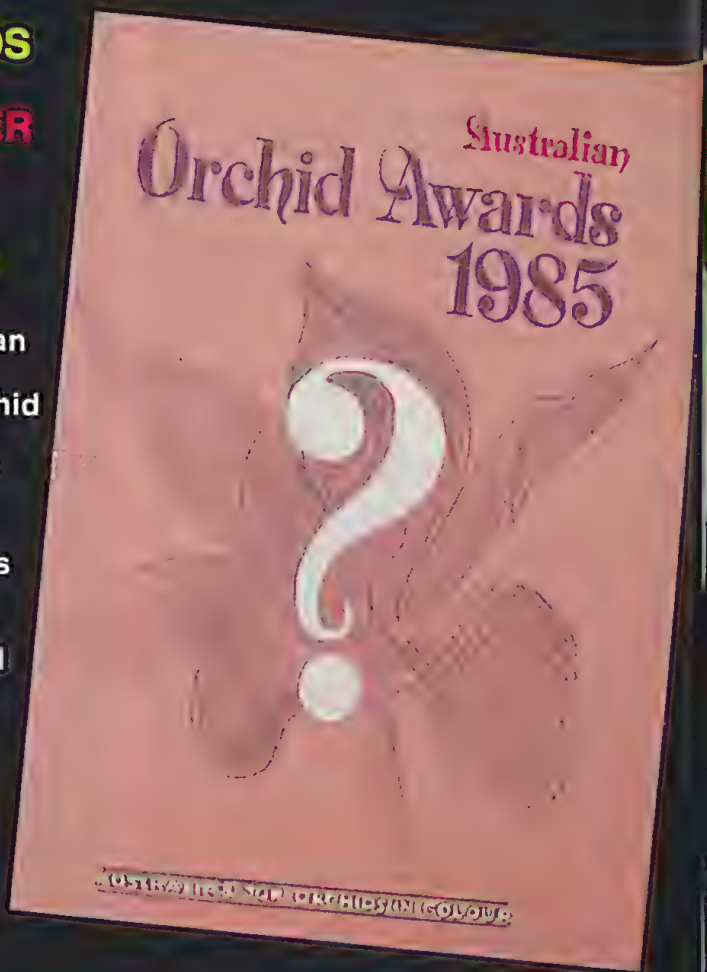
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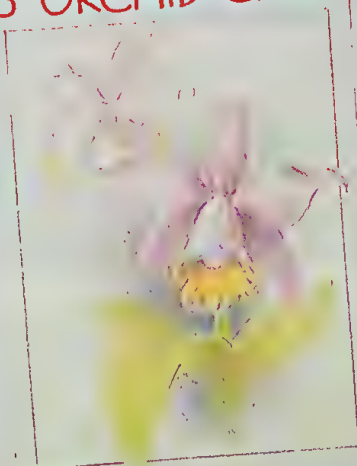
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February 1986

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
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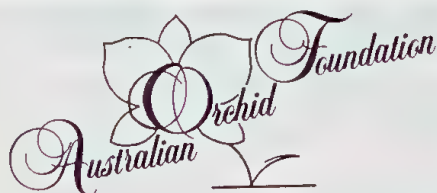
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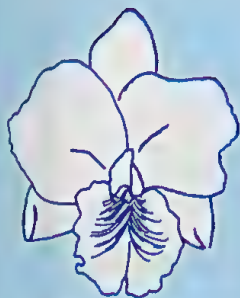
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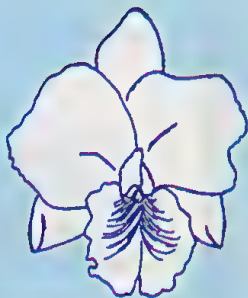
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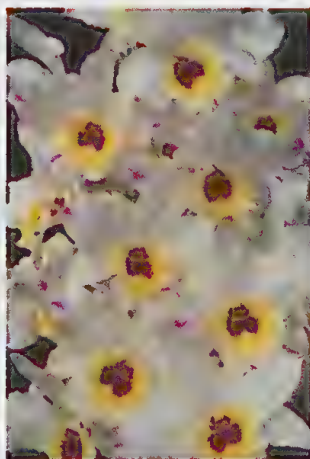
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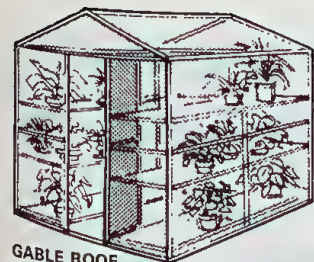
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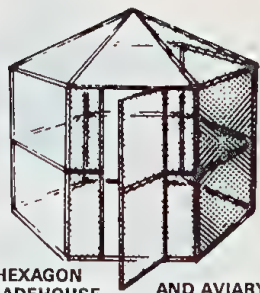
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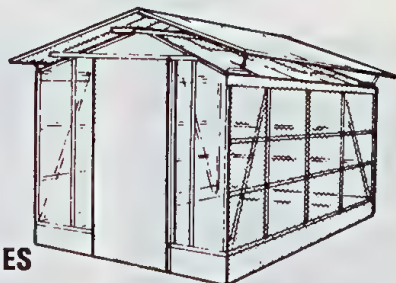
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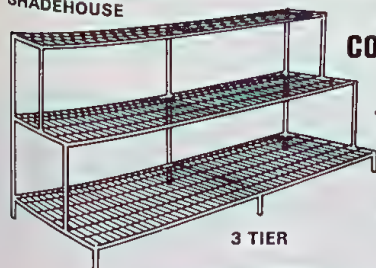
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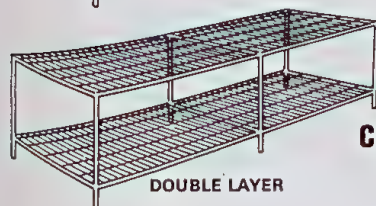
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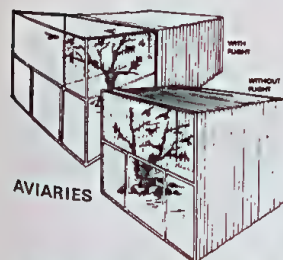
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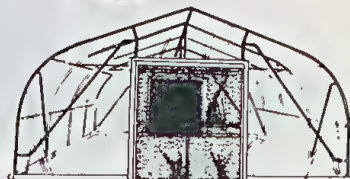
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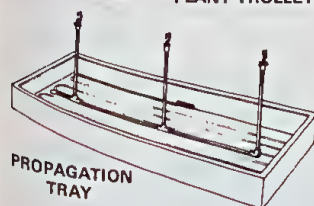
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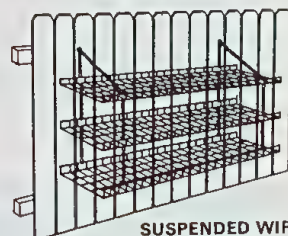
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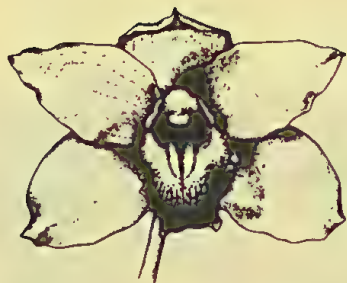
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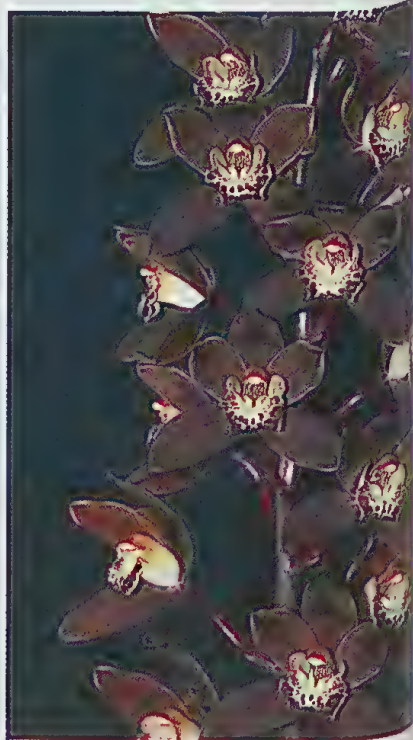
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	Size
Ascda. Buddy Choo x Ascda. Duang Porn — yellows.....	B C
V. Lenavat x (V. Joan Rothsand x Ascda. Medasand) — pink.....	B C
V. Eisenhower x Ascda. Seechang — yellow-spotted red .....	B C
Ascda. Phairot 'Yellow' x Ram Indra — yellow.....	B C
Ascda. Baucis (V. Jos. van Brero x Ascda. Honour First) .....	B C

## DENDROBIUM:

D. carroni x johannis — miniature chocolate blooms (blooming size) .....	A B
D. Gloucester Sands (canaliculatum x johannis) — blooming size.....	B
D. affine SM/10 WOC x Doreen — long, white and bi-colour sprays ...	B C
D. Alwyn Hill x (carroni x johannis) — spectacular miniature .....	A B
D. Debbie Macfarlane x tetragonum — multi-colour antelopes .....	A B
D. Hepa x Paradise Maid — superb bi-colours .....	A B

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Blc. Malworth x Blc. Bryce Canyon 'Splendiferous' — yellow to plum... A = \$3	
Blc. Malworth x Slc. Kauai Starbright — petite yellows.....	A B

## RENANTHERA (MINIATURE):

Twin Star x Poipu — brilliant red sprays.....	B C
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## VANDA:

V. Thananchai 'Yellow' x Seeprai — pale yellows .....	B C
V. Aurawan x Pong Thong — mustard yellows.....	B C
V. Filipino x Bhimayotin — exhibition pink/red .....	B C
V. Emma van Deventer x Rose Davis — blue semi-terete.....	B C
V. Jos. van Brero x Miss Thailand — pink/apricot .....	B C

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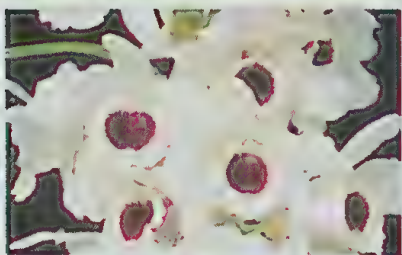
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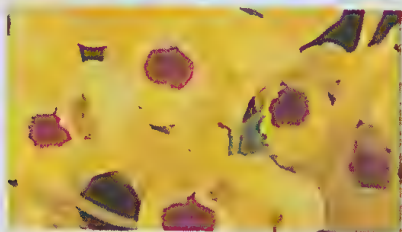
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# Australian Orchid Review



SUMMER 1985



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**No. RP.23 Odm. bictoniense Karen x Odm. Lalli**  
*(Attractive long-stemmed spikes, dark/yellow lips).*

**No. 0978 Oda. Dalmar x Odm. Flamingo**  
*(Nice, rich colours).*

**No. 030 Odm. Lalli x Triumpans**  
*(Nice, rich colours).*

**No. 2478 Odm. Muselle x Oda. Fremar**  
*(Dark reds and pastels).*

**No. 1878 Odm. Stropheon x Oda. Florence Sterling**  
*(Pinks and pastel lavender markings).*

**No. 0492 Odm. bictoniense x Coronation**  
*(Long-stemmed spikes, dark colours).*

**No. 617 Bllra. Tahoma Glacier 'Ash Trees', AM/RHS x  
Oda. Keith Gaskell**  
*(Large Beallara-type flowers, rich plum-purple splashed cream).*

**No. BW.20 Odcdm. Biti (Onc. tigrinum x Odm. bictoniense album)**  
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Advertising and Subscriptions to Publication Manager:  
Mark Robinson, 14 McGill Street, Lewisham, NSW 2049.  
Phone: (02) 560 6166.

SUBSCRIPTIONS: 1985/1986 within Australia \$33.00. 1985 \$18.00. Overseas surface 1985/1986 \$37.00. 1985 \$20.00. Airmail. NZ 1985/1986 \$42.00, 1985 \$24.00. All other. 1985/1986 \$56.00, 1985 \$31.00.

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Published by

PRINTCRAFT PRESS PTY LTD  
14 McGill Street, Lewisham 2049. 560 6166

Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA 27936  
The publishers of the *Australian Orchid Review* financially supports  
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# Australian Orchid Review

VOLUME 50 — No. 4

NATIONAL HERBARIUM  
OF  
SUMMER 1985  
20 DEC 1985

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## COVER STORY

*Paphiopedilum fairieanum* 'Red Ned', AD/AOC-TASM. is the top Australian Award of Distinction for 1983. The Award of Distinction is conferred by the vote of all State judging panels and is only given if there are three or more Australian Orchid Council Awards in the year ending on June 30. This year it has added interest because it carries a special prize donated by Mr Paul Kelly of Printcraft Press, publishers of AOR. 'Red Ned' is an outstanding form of the species and has been well cultured by Mr John Woodward of Tasmania.

To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in *italics*. In society bulletins and on place-cards *italics* can be indicated by underlining.



# Hybridising Within the Genus *Dendrobium* in Australia

WALTER T. UPTON



Mr Wal Upton has contributed to many orchid shows with displays of native orchids. This one was at a 1983 Australian Native Orchid Society show. It included many of the hybrids mentioned in this article. The display illustrates just how floriferous are Australian species and their hybrids.

## History

Records tell us that the first man-made Australian native dendrobium hybrid made in Australia was *D. Ellen* and was registered by W. Schmidt of Warrawee in 1928; although the first hybrid of Australian native dendrobium parents registered was made in Dorking, England by Sir Trevor Lawrence in 1892 and was *D. Specio-kingianum*.

It was not, however, until the early 1960's that hybridising in the genus *Dendrobium* really began in Australia, slowly at first but gradually gaining momentum as

more enthusiasts became aware of the potential and charm of these hybrids.

The majority of hybridising in the southern States of Australia has taken place within the sub-genus *Anthecebiium*. Mainly I think because they are easy to grow in the bush-house.

Hybrids have been made between different sections of the sub-genus *Athecebiium* and of the sub-genus *Eugenanthe* and also between these two sub-genera.

The future has so much to offer as we have such a large field to choose from. Such a variety of colour, shape and size and so far we have hardly scratched the surface!

## The Practicality of Hybridising

The first act in hybridising is not the placing of the pollinia of one orchid in to the stigmatic cavity of the other but, consideration of the purpose in making a particular hybrid. It is a waste of time to hybridise without thought. To hybridise just because one has two dendrobies out at the same time or with inferior parents is pointless. We should attempt to improve on both parents or at least have a purpose, even if we know it may take one or two generations before our aim is achieved.

In my dendrobium hybridising I am looking for many factors such as:—

1. Upright raceme.
2. Number of flowers per raceme.
3. Prolific flowering.
4. Flowering time and frequency of flowering.
5. Duration of flowering.
6. Colour.
7. Size.
8. Shape.
9. Short pseudobulbs with flowers well above the leaves.
10. Compact growing habit.
11. Cool-growing hybrids using part tropical species.
12. Plants that are vigorous and have ease of culture.

Special attention should be paid to the shape and size of the labellum; try to visualise whether it will be well balanced in the resultant progeny. *D. speciosum* for instance has a poor factor in the lip, its mid-lobe folds inwards and unfortunately this appears to be a dominant factor with this species.

Consider substance and texture of flower; it should preferably be fleshy, flowers that lack substance generally lack lasting qualities and don't stand up and look at one.

Fertilization chances are improved if flowers are selected from the centre of the raceme. The flowers at the basal end are too old by the time the terminal flowers open and frequently the terminal flowers are small and poorer in shape and colour.

Often the reproductive parts of the flower do not mature at the same time. The maturation of the pollen masses and the



*Dendrobium Kingrose*

From a crossing of *D. kingianum* and *D. Bardo Rose*. It is one of the early second-generation Aussie hybrids, having been registered by the late Ira Butler in 1966.



*Dendrobium Blushing Rose*

A third-generation cross. Parent plants were *D. Bardo Rose* and *D. × suffusum*. *D. Bardo Rose* is *D. kingianum* × *D. falcorostrum*. *D. × suffusum* is a natural hybrid of *D. kingianum* and *D. gracilicaule*. The cross has been made on several occasions. *D. Blushing Rose* is an improvement on its forebears in size and substance and width of segments.

stigma should coincide for perfect pollination. Old pollen, a stigma beyond the receptive stage, sudden changes in temperature or even wrong temperature can sometimes hinder pollination.

Plants that are vigorous and in a good growing medium with plenty of nourishment are the ideal parents and greatly assist the capsule to develop.

Having given consideration to the hybrid and decided it is worthwhile or is part of my





*Dendrobium* Red Baron

A clone from the crossing of *D. Blushing Rose* with a dark red *D. kingianum*. *D. Bardo Rose* was crossed with *D. kingianum* to produce *D. Blushing Rose*. Thus *D. Red Baron* is four steps away from the species on one side. Shape and colour come together magnificently in this clone.

hybridising programme, then I decide which of the two parents are strong and healthy, I may do it both ways. Next the anther cap is lifted off with a toothpick and the pollinia collected on to the toothpick. The pollinia and anther are then taken from the other chosen parent and the pollinia from the first plant is placed into the sticky solution in the stigmatic cavity of the capsule-bearing plant.

The pollen grains germinate in the sticky solution and then descend via pollen tubes into the ovary and eventually unite with the ovules.

The perianth of the dendrobium flower fades within two days of pollination taking place.

At the time of pollination of an orchid the ovules are only in a rudimentary state so when the pollinia is placed into the stigmatic cavity it firstly acts as a stimulant to induce the ovules to mature. A seed capsule may enlarge because the ovules have matured but may not contain any viable seed because the pollen has failed to fertilize the ovules.

The seed capsule needs constant attention whilst maturing. Insects, particularly grasshoppers and caterpillars, love them. Sudden falls or rises in temperature or capsules in a draft can cause cessation in the development of the pollen tubes. Put all plants with seed capsules into a glasshouse and keep the temperature as constant as possible and at a minimum of 60°F.

The ripening time of a seed capsule varies greatly in the genus *Dendrobium*. From my own experience I find that in the sub-genus *Anthecebiium*, with the exception of the section *Latouria*, it takes eight to ten weeks, although I have a clone of *D. monophyllum* that takes eighteen weeks to mature. The *Latouria* section takes approximately five months.

In the sub-genus *Eugenanthe* approximately six months. *D. agrostophyllum* seems to take about four months. I have



*Dendrobium* Hilda Poxon

Possibly the most successful native orchid cross. Most clones have yellow flowers heavily marked with red-brown spots. Plants are very floriferous.

The cross has been made several times.

only had one experience in the sub-genus *Xerobium* and that was with *D. baileyi* which matured in nine weeks.

The only way to know the answers on hybridising is to keep records. I do, and they are very valuable indeed. Not only can they tell how long it takes a particular parent to mature its capsule, but it becomes a vital document when considering which parent to use, because, as the years go by one gets to know the dominant and/or recessive characteristics of each plant.

### Section *Dendrocoryne* Hybrids

I am sure you are aware that the genus *Dendrobium*, because of its large number of species, is divided into four sub-genera (only three are represented in Australia), and each of the sub-genera into various sections. Much hybridising has taken place, not only within the various sections but also between sections and between sub-genera.

Most of the hybridising using *Dendrobium* species indigenous to Australia has taken place with species from the section *Dendrocoryne* of the sub-species *Anthecehium*.

There are ten species and four natural hybrids within the section *Dendrocoryne* in Australia and all of them have been used.

My main objective in this section is to produce plants that are compact and very florifer and have upright racemes.

Although it is too early yet to come to definite conclusions it would seem that three basic shapes are appearing. In a paper I gave at the Eighth Australian Conference in Townsville in 1983 I called these shapes:

No. 1 The *D. kingianum* shape.

No. 2 The *D. tetragonum* shape.

No. 3 The *D. tetragonum*/*D. speciosum* shape.

Now two years later I see no reason to change this. If anything this situation has been confirmed.

### The *D. kingianum* Shape (See Figure No. 1)

The two dominant species are *D. kingianum* and *D. gracilicaule*; both are dominant in shape and size and *D. kingianum* is generally dominant in colour. The habit of raceme is mostly arching to upright. (*D. speciosum* and *D. adae* are helping to strengthen and improve upright habit of raceme).

*D. kingianum* is a most variable species so one needs to study the clone to be used. For instance I have a very dark red clone and this colour characteristic is dominant; I have a clone with extra large side lobes to the labellum and this characteristic is dominant.

When one crosses *D. kingianum* with *D. gracilicaule* one gets *D. Xsuffusum* (also a natural hybrid). This is approximately midway between the parents except that in most of the progeny the colour of *D. kingianum* is dominant in the suffused markings. When *D. Xsuffusum* is used as a parent, strangely enough it is not always dominant in shape, particularly when crossed with *D. tetragonum*; also when we take *D. Xsuffusum* and cross it with *D. speciosum* the progeny are mainly *D. speciosum* shaped.

When taking a primary hybrid back to *D.*

*kingianum* the shape is dominant, e.g. *D. Penny Ann*, *D. Kingrose*, *D. Alan Printer*, *D. Kim* etc.

The species *D. fleckeri* is basically this shape but does not appear to be shape dominant, its major influence appears to be its lip and colour.

When using *D. fleckeri* with this shape, although the general shape remains constant the labellum of *D. fleckeri* is dominant, e.g. *D. Hastings*, *D. Golden Fleck*. (The first *D. Golden Fleck* made, used *D. gracilicaule* v. *howeanum*).

When using the shape dominant *D. tetragonum* with *D. kingianum* then the progeny is midway between the two shapes and it frequently flowers more than once a year (*D. Ellen*).

*D. Double Two* (*D. Xgracillimum* x *D. adae*) can be included in this shape. *D. gracilicaule* and *D. adae* have dominated the shape and lip. *D. speciosum* has helped in the good upright raceme and number of flowers.

*D. John Upton*, a cross between *D. Kim* and *D. Ellen*. With *D. kingianum* in both parents, we have a hybrid rich in *D. kingianum* colour and shape, all the progeny have been similar in shape and colour.

Some other hybrids taking this shape are *D. Xdelicatum*, *D. Xgracillimum*, *D. Bardo Rose*, *D. Craig Hewitt*, *D. Blushing Rose*, *D. Susan*, *D. Aussie Freckles*, *D. Ella V. Leaney*, *D. Kit Murdoch*, *D. Peach Glow*, *D. King Falcon*, etc.

The plant form generally favours *D. kingianum*.

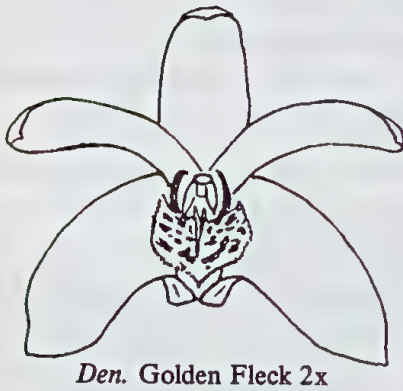
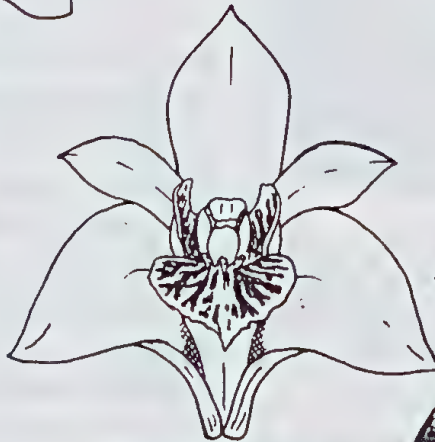
### *D. tetragonum* Shape (See Figure No. 2)

*D. tetragonum* is very dominant in shape and size and mostly dominant in colour (when crossed with *D. kingianum* that species is then dominant in colour). The habit of raceme is arching to almost pendulous.

The markings on the flowers of *D. tetragonum* are most frequently passed on to its progeny, some of the progeny being quite heavily spotted or suffused.

The lip characteristic is only partially dominant except in some clones.





*W.M. Upton*  
May '83.

FIGURE 1  
Approximately indicated size.

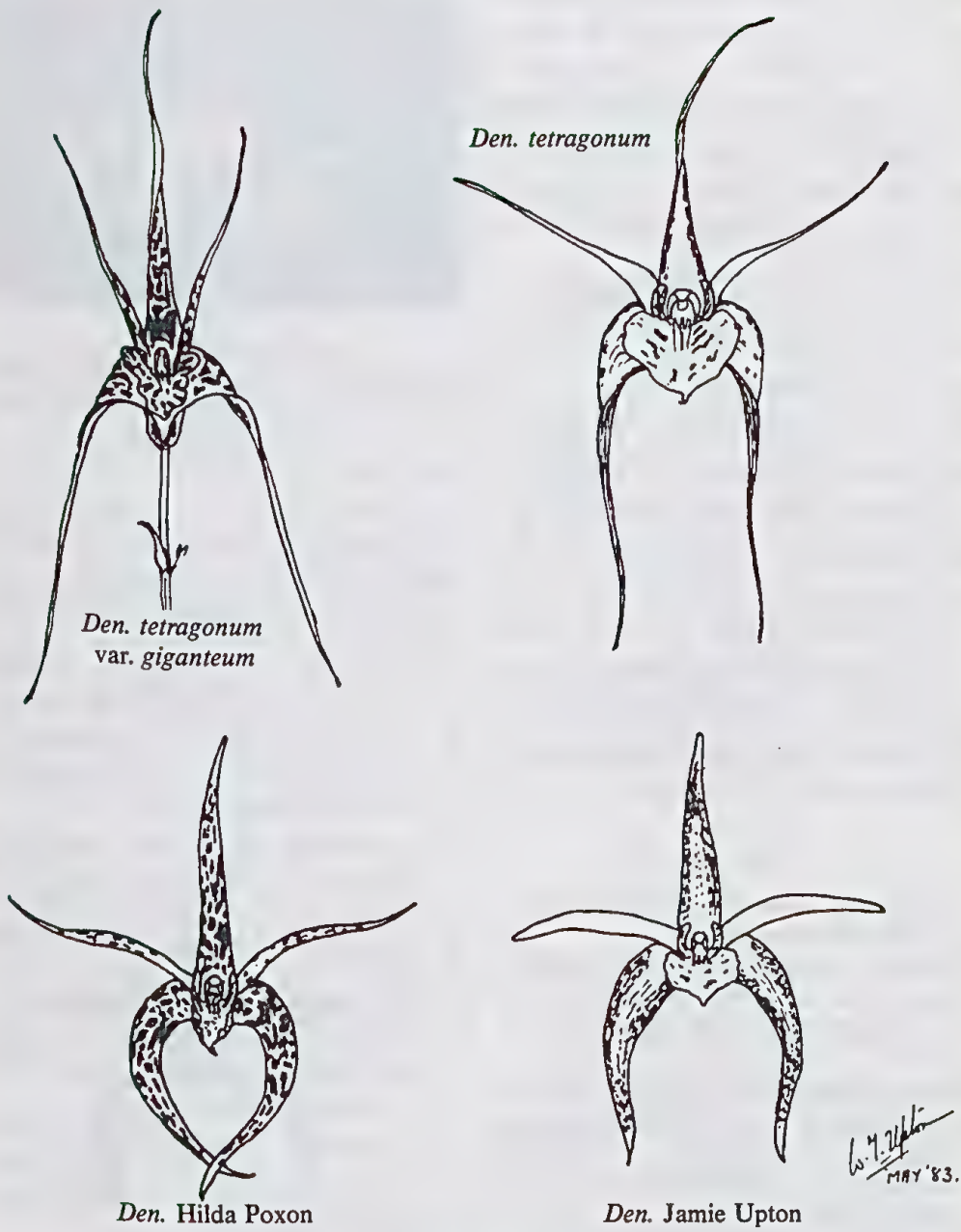


FIGURE 2  
Approximately indicated full size.

Unfortunately in some hybrids it dominates the number of flowers produced. When *D. tetragonum* is crossed with *D. speciosum* to make *D. Hilda Poxon* and with *D. falcorostrum* to make *D. Star of Gold*; it is the dominant species in all characteristics except the lip and some loss

in size, even the pseudobulbous stems are slightly four angled. If the Northern Queensland form of *D. tetragonum* is used it is not unusual for the hybrid to flower many times during the year. In the following hybrids only the labellum



favours the other parent and there is some loss in size. *D. Star Imp* (upright raceme from *D. adae*), *D. Nunkumbil*, *D. Allyn Star*, *D. Star Delight*, etc.

*D. tetragonum* has been totally dominant in shape and size in the following hybrids, *D. Ku-Ring-Gai*, *D. Kungara* (very large flower), *D. Andrew Persson* x *D. tetragonum* (very large flower, broad mid-lobe to lip and upright raceme).

*D. Blushing Star*, a cross between *D. tetragonum* and *D. Xsuffusum*, is marked with *D. kingianum* colouring and is not completely *D. tetragonum* shape.

*D. Jamie Upton*, a cross between *D. tetragonum* and *D. Golden Fleck* (*D. gracilicaule* v. *howeanum* x *D. fleckeri*) has produced an arching raceme with *D. tetragonum*-shaped flowers and lip but mostly with the *D. Golden Fleck* green to apricot colouring (from *D. fleckeri*). Of the 25 or so hybrids of this cross that I have flowered, only one was of a shape similar to *D. gracilicaule*. The markings on the flowers varied but the wide flat mid-lobe of the lip was constant, a dominant characteristic of the parent clone of *D. tetragonum*.

### ***D. falcorostrum*/*D. speciosum*** Shape (See Figure No. 3)

There is no specific dominant species in this shape but it is the accumulation of many characteristics both dominant and recessive.

*D. ruppianum* and its form *magnificum* is of equal importance in this shape, although no more dominant than the two species mentioned above, furthermore it generally has little influence on size.

*D. fleckeri* must not be ignored in this shape although basically nearer to the *D. kingianum* shape it has influenced many in this shape for its colour and of course its lip.

It was a successful parent in *D. Peter*, *D. Eureka* and *D. Hastings* although not dominant.

If there are any dominant characteristics in the species mentioned above it is in the habit of raceme, number of flowers and shape of lip, otherwise when crossed with *D. kingianum*, *D. gracilicaule* and *D.*



*Dendrobium Jamie Upton*

*D. tetragonum* crossed with *D. Golden Fleck*. The latter is from *D. gracilicaule* var. *howeanum* and *D. fleckeri*.

*tetragonum* they are recessive for shape. The colour from *D. kingianum* in any of the hybrids usually comes through.

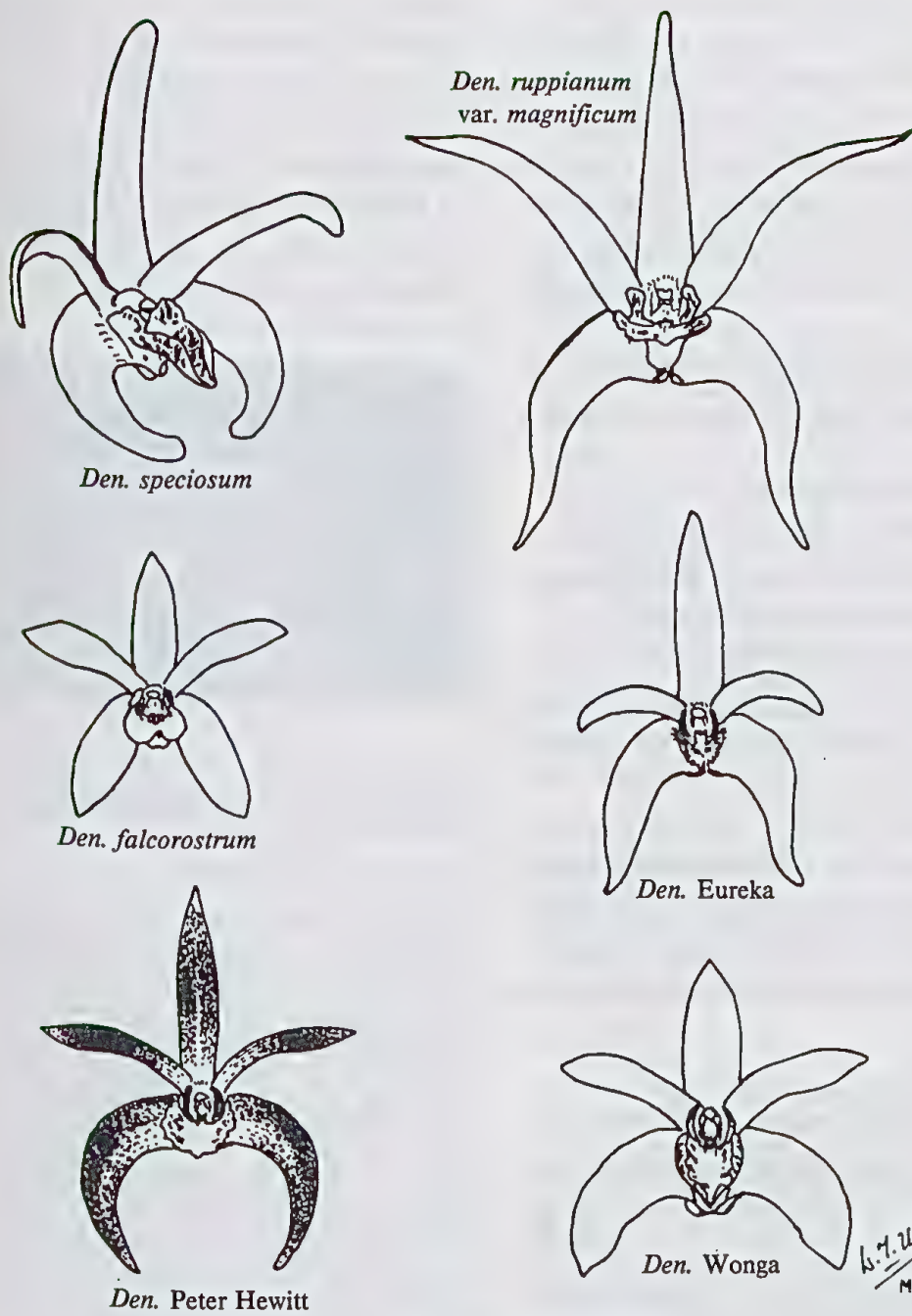
Generally the progeny giving this shape are from the crossing of:—

1. Two non-dominant species for shape. (*D. Eureka*, *D. Peter* and *D. Sunglow*).
2. Two primary hybrids together both having one dominant species in its parentage (*D. Peter Hewitt*).
3. A primary hybrid with two lots of dominant *D. kingianum* crossed with the dominant *D. tetragonum* (*D. Emma*).
4. A primary hybrid between two dominant species and crossed back to a non-dominant species (*D. Harold Hirsch*).
5. A hybrid with the dominant *D. kingianum* back to a non-dominant species for shape (*D. Wonga*).
6. A primary hybrid of two dominant species (*D. kingianum* and *D. tetragonum*) crossed with a non-dominant species (*D. Colin*).

### **Summary**

Although as previously stated it is too early to come to any definite conclusions. If we look to the future it would appear that within the section *Dendrocoryne*, the shape No. 3 will become the dominant one, but we should be able to keep the delightful shapes of *D. kingianum* and *D. tetragonum* by wise back crossing to these species.

The main *Dendrocoryne* flower of the



*L. J. W. 1983*  
MAY. 83.

FIGURE 3  
Approximately indicated full size.

not-too-distant future will be a well filled-in large shape No. 3 type flower with a solid upright raceme of 10 or more flowers in colours of white, cream, yellow, apricot; red and purple or combinations of these colours.

Unfortunately we will have to go outside this section for the all-important characteristics of length of time the flowers last. Within the sub-genus *Athecebiium* we will have to look to *D. monophyllum*, this of course in the early stages will reduce flower



size and may initially give us more of No. 1 shape flowers; this is I think a good thing.

Outside of this sub-genus we will have to look to *D. bigibbum*, *D. dicuphum*, *D. canaliculatum*, *D. johannis*, *D. semifusum*, *D. agrostophyllum*, etc. in the sub-genus *Eugenanthe*, but this will give us a certain amount of warm-growing hybrids, so we have to breed this factor out if we want cool-growing, long-lasting hybrids. Once again we will need very selective breeding to do this.

More on the inter sub-generic hybrids later, but first a brief look on the terete-leaved types within the sub-genus *Athecebiium*.

### Terete-leaved Hybrids

The species mostly used here are:

*D. linguiforme*, *D. cucumerinum*, *D. teretifolium*, *D. striolatum*, *D. tenuissimum*, *D. beckleri* and *D. pugioniforme*.

Generally the resultant hybrids appear to be midway between the parents in vegetative growth and near enough between the flowers. No obvious dominance coming to the fore at this stage. One good point, they are mostly more florific.

*D. Michael Jupp* (*D. beckleri* x *D. linguiforme*) is a delightful hybrid producing upright racemes with about 10 upside-down flowers about 30 mm across the lateral sepals and are slightly greenish in colour with purple striping at the base of the segments.

### Hybrids Between Terete and *Dendrocoryne* Sections

I have made two crosses between these groups. The first *Den. Elfin* (*D. Dainty Cascades* x *D. kingianum*). *D. Dainty Cascades* is from *D. pugioniforme* x *D. tenuissimum*. *D. Dainty Cascades* produced racemes of two or three pale-green flowers with purple tips to the segments, and purple on reverse side. It had the *D. kingianum* shape and the flowers were upside down. Flowers were up to 30 mm across the lateral sepals. The vegetative form was approximately midway between parents with some barrel-shaped leaves. Unfortunately it does not flower regularly.

The second cross used *Den. Pink Pencil* (*D. kingianum* x *D. teretifolium*) as one

parent. *Ira Butler* made this hybrid. It has charming pink flowers about 50-60 mm across the lateral sepals. Flowers and plant midway between parents. It also does not flower regularly or floriferously.

My initial thought was not to continue this line of breeding, but as the flowers were so charming, particularly the labellum, I decided to take *D. Pink Pencil* back to another *Dendrocoryne* species. The result was well worth the effort.



*Dendrobium Peter Hewitt*

A union of two primary hybrids: *D. Hilda Poxon* and *D. Hastings*. The former is from *D. speciosum* and *D. tetragonum*, the latter from *D. kingianum* and *D. fleckeri*.

*D. Pink Pencil* was crossed with *D. speciosum* to produce *D. Wesley Rose*. Although this hybrid has a few almost-tubular leaves, most are not. The habit of the stems is reasonably upright and not as slender as *D. Pink Pencil*. Flowers are about 50 mm across the lateral sepals. The colour is cream to white flushed with pink. It has a long and quite large labellum showing the influence of *D. teretifolium*. About four to eight widely-opening flowers are carried on the raceme. I have only flowered three plants of this cross and there is every indication that it will be quite florific.

### Hybrids Between Sub-genera

Now let us look at a few hybrids between the two sub-genera *Athecebiium* and *Eugenanthe*.

*Den. Peewee* (*D. bigibbum* x *D. tetragonum*). I have used the short pseudobulbous form, namely *D. bigibbum* var. *superbum* subvar. *compactum* with a large broad-

lipped north NSW form of *D. tetragonum* and the result is very dominant in *D. tetragonum* flower shape and dominant in 'compactum' plant size and flower colour, and the broadened petals. On its first flowering it carried four flowers on a pseudo-bulb 75 mm high and only three years from pollination or one year seven months from the flask.

Numerous plants have flowered since, the average flower size being 75 mm long. They are long lasting and appear to be cool growing.

*D. Andrew Upton (D. Judy Leroy x D. Star of Gold).* Two warm-growing species within two different sections of the sub-genus *Eugenanthe* (*D. dicuphum* x *D. canaliculatum*) crossed with a *Dendrocoryne* section hybrid. The plants are reasonably small, up to 150 mm. The raceme is upright and so far carries up to eight flowers, no doubt many more as it matures. The flowers, 60 mm, are pale green with mauve markings on the lip and are long lasting and cool growing.

*D. Jombock (D. Judy Leroy x D. Colin).* A cross, using the same *D. Judy Leroy* as the cross above, crossed with another *Dendrocoryne* section hybrid. These plants are also smallish. One flowered within three years of pollination and produced an upright raceme of seven pure-white, star-shaped, 50 mm flowers.

*D. Duke (D. Judy Leroy x D. tetragonum).* Once again using the same *D. Judy Leroy*, but this time with dominant species for shape *D. tetragonum*. The progeny are very star-shaped but have great charm. They range from pure white to a deep yellow with orange tips to the segments. Flowers are up to 65 mm long and are very long lasting, some as much as seven weeks. It is cool growing but needs a little warmth through the coldest winter months.

*D. Warringah (D. bigibbum subvar. compactum x D. speciosum).* So far I have only seen two plants of this cross in flower. I made it in 1979 and it appears a fairly slow grower until it reaches flowering size. By using the small pseudobulbous stem form of *D. bigibbum* the plants have been kept small. The flowers are a delicate shade of pink with some darker flushes. Flower

substance is excellent and the raceme is upright. A real winner. Cool growing.

### Hybrids Within Sections of the Sub-genus *Eugenanthe*

*D. bigibbum* var. *superbum* x *D. agrostophyllum*. This hybrid was originally made by Mark Clements at the Canberra Botanic Gardens and it is a pretty little flower midway between the parents but *D. bigibbum* colour. It carried 4-6 flowers (no doubt more as it matures) on a pendulous raceme. The plant is quite large like both its parents. I have remade this hybrid using the white-flowered form of *D. bigibbum* but the flowers are all *D. bigibbum* coloured. Approximately eight to ten flowers on an arching raceme. Cool growing.

*D. Eleebana (D. Judy Leroy x D. bigibbum).* Another small-growing plant because I used *D. bigibbum* var. *superbum* subvar. *compactum*. Numerous plants have flowered so far. The flowers on one clone lasted 3½ months in good condition.

The flowers are like a pale *D. bigibbum* and so far have carried up to 12 flowers. The pseudobulbs are up to about 100 mm. Warm growing.

Although there are many more Australian native hybrids I feel I should stop at this, after all this is really only an interim report of my thoughts of what is happening in hybridising within the genus *Dendrobium* in Australia.

I have given priority to shape in this article, please do not interpret it as the most important factor. It is not within the scope of this paper to consider much more than shape, but other factors such as longevity of flowering and cold tolerance, etc. are just as important.

My intent is to bring the desirable qualities in a series of crosses together, so that in the future all these good characteristics will make an Australian native hybrid of outstanding excellence.

This is many years into the future, I only hope I see it.

71 Wesley St, Elanora Heights 2101.

Photos by W. Upton except *D. Kingrose* by R. Kerr.



# ON KNOWING THE NAMES

Botanists have difficulty in adequately defining the species concept. This is one of the reasons orchid name changes occur.

Many orchid growers take name changes as irritants and botanists as pests of two kinds, lumpers and splitters. Such an attitude can be blinding to the fascination of seeing nature at work in our own growing house or bushland. Nature is always in a state of change. Mostly it is so slow that we do not see it unless we learn how to look.

Have you flowered several plants of the one cross, placed them alongside one another and studied the difference between them. They are as individual as the children in a large human family. Better still, compare many clones of the same species, especially from different areas. They will be very variable, yet are capable of pollinating each other in a marvellous way via a pollinating insect.

The species concept is fundamental to our whole system of classification of living things. And accurate classification is the basis of all our knowledge.

Until quite late in the renaissance classification was shrouded in superstition, dogma, generalisations and inadequate systems.

Plant names, those given them by savants, were descriptive phrases in Latin, too long to be practical. For familiar flowers ordinary people used common names, many with the lovely savour of folklore, but the common name for the same plant tended to vary between countries and districts.

Englishman John Ray can be regarded as the first real botanist. He is certainly the most influential of those renaissance elite who realised the importance of gaining their knowledge from observation rather than precedent.

Ray, who lived from 1627-1705, was a clergyman whose religious activities were restricted by the prejudices of the English Civil War. Fortunately he found a collaborator in, and patron for, his work in natural science, namely Francis Willoughby, a wealthy land-owner.

Willoughby and Ray travelled England and continental Europe studying birds, animals and plants. Ray wrote: "When men do not know the names and properties of natural objects and are ready to believe any fanciful superstition about them, they cannot see and record accurately".

What a text for orchid growers today! We have the accumulated data of around three hundred years of keen observation and a workable system of nomenclature to help us understand the wonderful stories to be found in our own orchid houses.

Ray believed that the essentials to understanding were first, description and classification, then interpretation and speculation. Today we call this the "scientific method".

John Ray classified 18,000 plants based on fruit type, leaf type, shape and habit, and flower features. It was the first major attempt to classify by all morphological features. Morphology comes from the Greek *morphē*, meaning form. Scientifically it applies to *all* the characteristics of a plant or animal in *all* its parts, including sexual.

The renaissance was rich with new fresh ideas blowing like refreshing breezes in the minds of thinking men. One such was Gaspard Bauhin (1550-1624) one of a family of doctors and naturalists. Linnaeus named the genus *Bauhinia* for Gaspard and his brother Jean (1541-1613). Gaspard Bauhin was the first man to suggest a binominal system for naming plants and animals.

The idea crystallised in the mind of Carl von Linné (1707-1778) better known by his latinised name Linnaeus. The work *Species Plantarum* was published in 1753, and this date has been internationally accepted as the starting point for the naming of all plants. The binominal system is virtually the same as giving each plant a surname (genus) and given name (specific epithet). Like the Chinese method of naming people the surname comes first. Old names such as *Arum summis labris degustantes mutos reddens*, which translates as "Arum which

# OF ORCHIDS

Ronald Kerr

strikes dumb those who do but taste of it", became a more manageable *Arum maculata*, meaning spotted arum.

Linnaeus based his classification on the sexual parts of the plant, starting with the number of stamens or male parts. A flower with one stamen was placed in the tribe Monandria; two stamens, Diandria. There were 24 classes, based on the number of stamens, or on stamen shape. Plants without flowers, such as ferns and mosses, were the twenty-fourth class.

The Linnean system was "artificial" in that it only took sexual characteristics into account. Nevertheless it was a big improvement on older systems and formed a basis for the improvements which followed.

A Frenchman, Michel Adanson (1727-1806) in his *Familles Naturelles des Plantes*, published in 1763, suggested a method of classification based on all parts of the plant, and which employed a checklist of 65 items based on 22 plant parts. He was the first man to emphasise the great variation within a species.

The system proved too cumbersome for general adoption in that era, but it was a pointer for other botanists. The most influential of these was Antoine Laurent de Jussieu, member of a distinguished family of doctors and botanists. He published a workable system of classification based on a natural system.

The system was adopted by Robert Brown during his plant collecting in Australia from 1801 to 1805. Brown, acclaimed as possibly the greatest of English botanists, accompanied Flinders in the circumnavigation of Australia, and later explored Tasmania, and in the Hunter River and Hawkesbury River areas. This was the first great systematic study of Australian plants, and led to the publication in 1910 of his *Prodromus Florae Novae Hollandiae et Insulae Van Dieman*. Brown established nearly a third of our orchid genera and named most of the 114 orchids in the *Prodromus*.

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*"When men do not know the names and properties of natural objects, and are ready to believe any fanciful superstitions about them, they cannot even see and record accurately."*

John Ray

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The supreme value of this work was that it stabilised botanical nomenclature for over a century. Lindley used it as the basis for his classification of orchids. And Lindley was the first botanist to specialise in orchids.

Alphonse de Candolle (1805-1893) French botanist, was the son of Pyrame de Candolle whose *Principes elementaires de botanique* was an influential contribution to the natural system. Alphonse used his father's system to prepare a draft proposal on the international standardisation of nomenclature for presentation to the First International Botanical Congress, held in 1859. Today's system of nomenclature is based on this and changes can only be made at an international botanical congress. The 13th Congress was held in Sydney late in 1981.

During the nineteenth century plants were being classified by thousands each year and the binominal system had evolved just in time to accommodate them. The essence of any system of classification is that it must be capable of expansion without upsetting the general balance. Also it must be able to handle revisions without damage to its overall framework. The binominal system filled these needs.

When a large number of genera became established the relationship between various groups of them became clearer. It was



TABLE I. The Higher Classifications

The International Code of Botanical Nomenclature lays down a definite system for the grouping of plants by natural affinities. The lower the grouping the more characteristics each class has in common (see story opposite page).

Category	Ending	Examples
Order	-ales	Liliales.
Family	-aceae	Orchidaceae, Liliaceae.
Subfamily	-oideae	Orchidoideae, Epidendroideae.
Tribe	-eae	Orchideae, Vandaeae, Neottieae.
Subtribe	-inae	Orchidinae, Laeliinae, Oncidiinae.
Genus (plural genera)	Not fixed.	<i>Orchis</i> , <i>Epidendrum</i> , <i>Vanda</i> .
Species (singular and plural).	Not fixed, but must agree with gender of genus).	<i>Orchis purpurea</i> , <i>Vanda tricolor</i> , <i>Epidendrum nocturnum</i> .

Lindley made the first classification of the orchid family in 1826, in which he recognised eight tribes (later reduced to seven). Dressler thinks it was a good classification, and "it would have been better if he had had better microscopes and more living material".

Bentham in *Genera Plantarum*, written 1852-83 in collaboration with Sir Joseph Hooker, made a classification based on five

orchid tribes and 27 subtribes. A system suggested by Ernst Pfitzer was influential for a time but is now regarded as too "artificial". Systems worked out by Rudolph Schlechter and Dr Leslie Garay have been useful. However the system suggested by Dr Dressler conforms more closely with the rules of nomenclature.

Most other famous botanists have concentrated on taxonomic work at the generic and species level.

natural that differences of opinion should take place, and they still continue today.

Linnean concepts were relatively simple in that they were based on a rigid believe in the immutability of species. Linnaeus had initially been trained for the church and therefore classified on the principle that each species was entire and compartmented since the Creation.

Ironically the very volume of new species discoveries and the efficiency of the binominal system shattered this concept. Not only was variation within a species apparent, but more and more natural hybrids were being recognised. Improvements in microscopes resulted in a greater knowledge of

morphology, cell structure, and, more recently, in genetics.

Then one man, Charles Darwin, drew all the threads together. He showed that a species adapts to its environment as a result of natural selection. A species is an interbreeding and changing population and as environments change with time or by wider dissemination of seed only those individuals capable of adapting to the new conditions will survive, and in the process change. The change may be imperceptible, but in the case of species with short generations changes may be noted within the working life of a researcher. For instance, experiments with fruit flies, whose life cycle is

only a few days, have shown that marked changes can be induced over several generations by changing an environment.

The electron microscope has widened the field dramatically. Now biologists acknowledge five "Kingdoms": Monera covers bacteria and blue-green Algae, both have cells characterised by lack of distinct nuclei; Protista, one-celled living units with distinct cell nuclei; and plants, fungi and animals.

Modern classification thinking is based around two schools, with variations in each. One, in use since Darwin, sets out to classify according to phyletic or evolutionary development. The other, which can overlap with the first, has reverted to the system of Michele Adanson, now made easier by the computer. It is generally referred to as the "numerical" system.

The subject is vast and what concerns us is how orchids fit into the scheme. Fortunately this has been made easier and vitally interesting by the work of Dr Robert Dressler in his book *The Orchids — Natural History and Classification*. Dressler explains the logical evolutionary development of the orchid family in the light of continental drift and environmental changes. He also outlines a tidy system of the higher classifications which eliminates many of the controversial points of the past hundred years.

Orchid species which have been longest evolving tend to be genetically stable and therefore less likely to hybridise. Those which interbreed readily appear to be relatively young in the phyletic scale. Tribes which are remote from each other geographically have rarely been pollinated artificially. This can even apply within a broad spectrum genus such as *Dendrobium*, a ground for recent reclassification by Dr F.G. Brieger.

In areas where tribes and subtribes overlap natural hybridisation is largely inhibited by lack of mutual pollinators. However natural hybridisation is not uncommon within some genera, or within sections of a genus such as *Dendrobium*. It is an essential part of evolution, along with mutations, environmental changes and polyploidy.

Man-made hybrids have stretched compatibility to the limits. Research on non-

TABLE II.

## The Dressler Higher Classifications

Family Orchidaceae
Subfamily Apostasioideae
Subfamily Cypripedioideae
Subfamily Orchidoideae
Tribe Orchideae
Tribe Diseae
Tribe Neottieae
Tribe Diurideae
Subfamily Spiranthoideae
Subfamily Epidendroideae
Tribe Epipogieae
Tribe Vanilleae
Tribe Gastrodieae
Tribe Arethuseae
Tribe Coelogyneae
Tribe Epidendneae
Tribe Malaxideae
Subfamily Vandoideae
Tribe Polystachyeae
Tribe Vandaeae
Tribe Maxillarieae
Tribe Cymbidieae

Below the rank of species the code permits the use of subspecies, variety (varietas) and form (forma) in that order. Dressler points out that "the above categories are not really enough to show all the complexities of relationship and phylogeny, and there is often a tendency to add formal or informal relationships such as supertribe, alliance, subgenus and so on".

Such differences confuse many people unless they recognise the continuing essence of change as new discoveries and philosophical concepts emerge. Nothing is static and we should not inhibit our minds with fixed ideas. However without a framework aligned with current concepts we would be lost.

With horticulturists the concept "alliance" has practical value in loosely identifying those groups of genera which will interbreed.



sexual (somatic) hybridisation is now taking place with a view of exceeding these limits. Somatic hybridising has commercial implications because the market for new, unusual, more beautiful, and potentially award-winning clones is immense.

This brief outline shows just how continuing a process is the classifying of orchids. It conveys an idea of the immense efforts made to achieve stability in nomenclature. The process is limited by the state of knowledge at any point of time, but each step has been the basis for new knowledge. Our knowledge is still evolving just as plants are still evolving.

Today fresh tools such as the electron microscope and computer have created a new threshold. At our own level of hobby growing the practical result will lead to more knowledge of genetics and hence more successful hybridising.

On a personal level the whole history of classification gives us a broad and vitally-interesting picture of philosophical development. As Ray pointed out only a few generations ago knowing "the names and properties of natural objects" enables us to see and record accurately. Achieving accuracy in our own nomenclature is a major step towards finding the wonderful aspects of the orchids we grow. There's a fascinating story in every orchid species and hybrid. It's in their evolution, the story of their discovery or hybridising, their fantastic shapes, their pollination and pollinators, their geographic backgrounds, and their biological relationships. Search for those stories. You'll be well rewarded. No wonder orchid growing is the hobby of a lifetime.

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NOTE: Since publication of his book Dr Dressler has made minor changes by accepting the name Laeliinae for his Subtribe Epidendrinae, also the spelling Maxillariinae for his Tribe Maxillariinae. He has replaced the name Subtribe Listerinae with Subtribe Neottiinae. With these alterations the Dressler classification of the family Orchales is accepted by most botanists.

## Sub-Tropical Orchid Council

Queensland orchid growers have overcome the problem of vast distances in very practical ways. They think nothing of organising bus trips to visit a society two or three hundred kilometres away. More importantly they have organised regional councils on an area basis encouraged by the Queensland Orchid Society.

The first such group was the Tropical Queensland Orchid Council formed over twenty years ago, followed by the Sub-Tropical Orchid Council soon afterwards. Another regional group was formed last year, the North Moreton Queensland Orchid Council, and has recently held a very successful show.

The Sub-Tropical Orchid Council counts among its member societies Caboolture OS, Glasshouse Country OS, Sunshine Coast OS, Maryborough OS, Noosa OS, Gympie OS, North Coast OS, Bundaberg OS, Hervey Bay OS and Maroochydore OS. Hope none have been left out. AOR doesn't often hear from some of these societies, and considering they are so active this is a pity. How about a few reports from STOC members. Your area abounds with good growers and you have a wonderful district to tell the rest of Australia about.

# The Culture of Species *Paphiopedilums*

W.A. TURVILLE



*Paphiopedilum spicerianum*



*Paphiopedillum sukakulii*

In the world of flora there are many plants far superior in all respects to the orchid. In colour, size and floriferousness, the orchid is only one section of a very beautiful botanic world.

A hybrid cattleya may have the perfume of a freshly-picked apricot, and seven inches of fluorescently-coloured bloom. Of course there is nothing else in cultivation to compare with this, but the hibiscus gives the same colour range and blooms up to twelve inches across, unfortunately with no perfume. Basically what I'm trying to say is that I was not attracted to orchids for their beauty.

In my opinion there are many ugly orchids. Genera, such as *Stanhopea*, *Mormodes*, *Cynoches* and of course *Masdevalia* certainly are not pretty. But my first orchid *Paphiopedilum venustum* must win first prize in an ugly show. What with black warts (Sacci), veins that seem to be filled with blood, black bristly hairs and a labellum that resembles a human brain, no-one could call it pretty. Of the seventy or so species of *paphiopedilum*, very few are pleasing to the eye. There are a few attractively coloured species, such as the apricot *P. armeniacum*, the white *P. niveum*, the pink *P. delenatii*, but they are the exception. And as for scent, only *P. delenatii* is perfumed.

In my opinion, it is their complex morphology, the variation between species,

their mode of cultivation and striking clashes of colour that gives this genera such a devoted following.

Culture is one important factor, but simply acquiring the species you desire is another matter. To the average collector there are approximately thirty-five species available within Australia from select nurseries. After that the next fifteen or so species can be obtained by importing from their country of origin. But the final twenty or so species are either extinct in the wild due to over-collecting, or up to fifty times the cost of the more common types. Acquiring any of the twenty final species should not be attempted unless you feel that you have almost perfection of culture. Some examples of these *Paphiopedilum* species are *rothschildianum*, *violascens armeniacum*, *virens*, *bodegomii praestans*, *hookerae*, *kilopakingii*, *stonei* and any alba-clone of any species.

As to the culture of species *paphiopedilums*, no two growers give the same treatment. So the following is only a guide — not a rule.

**Temperature.** As this genus is extremely diverse in habitat, a compromise must be found to comfortably hold all the species under the one roof. If you can re-create three different conditions, all the better, but as I own only one small glasshouse, this is not possible.

By keeping the temperature between the extremes of 18°C minimum and 36°C



maximum, it is possible to house around 90 per cent of all the species in the one house. The notable exception to this being *insigne* and to a lesser degree *hirrsuttisimum*.

**Light.** If the glasshouse can be divided into two different areas of light, then all the species can be housed side by side. By keeping the multi-flowering types such as *P. lowii*, *P. phillipinensis*, *P. stonei* and *P. randsii* in a brighter position equal to that for cattleyas and the others slightly darker, all should grow well.

**Humidity.** This aspect of culture is more important than most people realise. As orchids are capable of drawing large amounts of water through their leaves, high humidity is essential in helping new divisions with poor root systems to establish. All paphiopedilums come from areas of high humidity and without it, they will never flourish. A constant 60 per cent to 80 per cent is optimum with up to 100 per cent quite acceptable in warmer weather.

With an increase in humidity, there is also a dramatic increase in growth. This growth is usually fleshy and crystalline in appearance and very attractive. Unfortunately, it is also very soft and disease-prone, and as bacterial diseases thrive in

be available to the orchids. As to the strength, one-quarter to one-fifth of the standard solution fortnightly suits my purposes. As up to ten different species may be in bloom at the one time, even in the middle of winter, I fertilise constantly every two weeks.

**Potting Media.** After trying many different medias, my final choice, was also the most simple to prepare. I progressed through coarser and coarser mixes, until a size of 3/16 of an inch to one-quarter inch ingredients were found to be optimum. Smaller pieces should be sieved out, as should larger pieces over one-quarter of an inch.

I use only three ingredients:—

- (1) Pine or fir bark.
- (2) Hardwood charcoal.
- (3) Red volcanic scoria.

As the first two ingredients are very light, the scoria adds weight and holds the other ingredients in place.

**Pests and Diseases.** Unfortunately, to obtain the best from your paphiopedilums, spraying is unavoidable. Insects such as mealy bug and diseases such as *Erwinia* bacterial rot will occur and some form of control must be used to cure the problem.

PESTS	PESTS MOST EFFECTIVE	SAFEST
Mealy Bug	Rogor	Alcohol
Aphis	Pirimor	Pyrethrum
Caterpillars	Carbaryl	Dipel
Garlic Snail	Metaldehyde	Pellets
DISEASES	MOST EFFECTIVE	SAFEST
Leaf die back	Natriphene	Sever
Crown rot	Divide and remove	—
Bud rot	Benlate	Bottom watering

warm humid conditions, great care must be taken to protect plants grown under conditions of high humidity.

**Supply of Nutrients.** No two growers fertilise the same way. Whether it be weekly or monthly, solid or liquid, weak or strong, it is difficult to know what is right. I choose a very conservative style of fertiliser programme. It's only my opinion, but I feel that every fertiliser on the market must be of some benefit. So by using all the brands in rotation, the full spectrum of elements must

Of the fifty or so different chemical compounds I use in the horticultural trade the following seem to be the most effective for the ailments as shown in the table above.

In summing up, paphiopedilums are a challenge to the grower. They are not the easiest genus of orchids to grow and at times can be totally frustrating. Constant, if not daily inspection is needed as most of the previously-mentioned diseases are extremely rapid in their progress.

# "ORCHIDS IN THE WILD WEST" — SENSATIONAL IN THE SUNNY SOUTH

The Orchid Club of South Australia Inc staged the most lavish, richest and successful orchid shows seen in this country since the Sixth World Orchid Conference in 1969, from August 30 to September 7, 1985.

A taste of what is to come for "Orchids Australia '86", the show was built around the challenging theme of the Wild West days in the USA and it proved wonderfully successful. The combining of the Annual Spring Orchid Show with the Adelaide Royal Show has been a winner and yet one of the most challenging moves yet, by the orchid club.

This year over 100,000 spectators visited the orchid show and were enthralled by it. The enthusiasm for orchids has risen to very high levels in South Australia, due in no small way the greater exposure of orchid growing to the general public at the Adelaide Royal Show.

Planning for such an orchid display, covering an area of 1,700 square metres, began over 12 months beforehand. The necessity to present a professional show entailed careful preparation and also a reliance upon considerable sponsorship by various commercial firms. Suppliers of sawdust, pinebark, timber, pine offcuts, pinus trees, moss rocks, polystyrene sheets, instant lawn, garden furniture, shadehouses, benching and garden edging all needed to be approached and convinced that participation in "Orchids in The Wild West" was a very worthwhile advertising avenue.

So successful were these approaches that products used in "Orchids in the Wild West" included — four huge truckloads of sawdust, two truckloads of pine bark, 36 tons of moss rocks, 70 metres of instant lawn, \$500 worth of polystyrene sheets, one thousand 2.5-metre pine bark offcuts, 280 metres of garden edging, 200 bales of straw, one tonne of pebbles, 100 pinus trees to four metres high, 20 rolls of heavy black plastic sheet four metres wide, 50 sheets of

2.5 metre x 1.4 metre plywood and \$1,200 worth of supplementary floodlight hire.

Organisation of such supplies and estimating of quantities is no mean task. Actual preparation of backgrounds of exhibits, construction of the wonderful eight-metre square Fort Orchid in the middle of the display and the building of a polystyrene hacienda and an old pine offcut log cabin began four weeks before the show was to be finished.

Almost 70 metres of backdrops had to be constructed of plywood on frames and erected. The many truckloads of sawdust, bark and moss rocks, together with the hay bales that were ideal for basic staging were arranged with some hard-working club members using a front-end loader and a fork-lift truck.

The expertise of club carpenters soon saw a very professional group of buildings erected and the backdrops were transformed in merely three days into most perfect scenes by the club artist, Garry Lee Gaston.

Eventually all was in readiness for the exhibitors. With a slight amount of apprehension because of the very early commencement date of the show — August 31 — which followed a particularly cold period in South Australia — exhibitors began to arrive on Wednesday, August 28 and it was soon obvious that there would be no shortage of flowers. Thank goodness that South Australian orchid growers have built up large collections of intermediate cymbidiums — these colourful beauties were the backbone of the early show.

The wonderful displays were arranged during the day, using sawdust to build up areas, with bales of straw underneath to add strength. All exhibitors co-operated in the





Just one corner of the show with "Fort Orchid" in the background.

true spirit and exhibits were finished off with a layer of pine bark, or in a few cases, instant lawn.

At last only the area set aside for the exhibit from the New South Wales Orchid Society was missing, however, communications throughout the day kept us informed of the sequence of misfortunes that were befalling our friends from Sydney. The Burke and Wills epic trek had nothing on the problems of the "intrepid travellers". Evidently they were made of the same stern material as their historic counterparts because they eventually arrived, by horse-float just five minutes before the hall was due to be closed.

Judging of the show was on Thursday, August 29 and at the same time, our NSW friends were able to complete their exhibit.

The fact that the RAHS judges awarded the only bronze medal to the NSW exhibit was a justifiable reward for their efforts in staging a most attractive and well-arranged display under extreme difficulties.

This spirit of co-operation between States is the beginning of a whole new attitude amongst orchid societies that will change

the aspect of our shows in the years to come.

Of course this spirit of co-operation will be accelerated at "Orchids Australia '86" next September, when we hope that all societies in Australia will bring an exhibit to Adelaide. Sincerely we hope that all the troubles of travelling were used up by the NSW boys this year and no such difficulties will appear in 1986.

The results of the major sections of the 1985 Orchid Show of the Orchid Club of South Australia were:—

Champion Orchid of Australia: *Cym.* Valerie Brown 'Eureka' — G. Morris. Champion Orchid Other Than Cymbidium: *Paph.* Future World 'Galaxy' — Adelaide Orchids. Champion Intermediate Cymbidium: *Cym.* Winter Fire 'Sylvia' — G. Carter. Champion Miniature Cymbidium: *Cym.* Sarah Jean 'Goldilocks' — Bubs Greedy.

Champion Australian Native: *Pts.* Ingens — L. & K. Nesbitt. Champion Cattleya and Allied Genera: *Blc.* Sylvia Fry 'Supreme' — K. & G. Staples. Champion Phalac-



nopsis: *Phal.* Alice Gloria — J. & M. Gulbis.

Champion Any Other Genus (including *Dendrobium* and *Odontoglossum* Alliance): *Den.* Yodogimi No. 1 — Adelaide Orchids. Champion Seedling Orchid: *Cym.* Little Big Horn 'Chieftan' — J. Jansma.

Special features of "Orchids in the Wild West" were:—

An educational display of the underground orchid *Rhizanthella gardneri*, in "Fort Orchid". This was contributed by the Kings Park Botanic Garden, Perth and Dr Jack Worcup of Waite Institute, Adelaide. Also in the fort was an excellent display of terrestrial orchids by the Native Orchid Society of South Australia.

From the front of the log cabin in the SAS10 Corral, there was a daily one-hour broadcast by Channel 10, Adelaide. At other periods of the day square-dancers performed from that area.

With wide press and TV coverage, good

sales at the plant stall and a successful raffle with \$5,000 worth of prizes the show was a resounding success both financially and in furthering the objects of the club.

The prize schedule of over \$4,000 value was keenly contested and the first "Champion Orchid of Australia" *Cymbidium* Valerie Brown 'Eureka', grown by Graham Morris of Adelaide, was a very worthy winner of the \$1,000 prize.

The Orchids Australia '86 Show has been allocated over \$7,000 in prize-money and is open to all orchid growers in the world. Exhibit modules will be of approximately nine square metres and societies, commercial growers and private growers who want exhibit space should contact: Orchids Australia '86, GPO Box 730, Adelaide, South Australia 5001, as soon as possible.

Remember September 17-23, 1986, you must be in Adelaide for "Orchids Australia '86".

Syd Monkhouse

## RE-DISCOVERED *Rhizanthella slateri*

Mr Mark Clements of the National Botanic Gardens at Canberra, in a search based on an analysis of previous findings and botanical associations, has found *Rhizanthella* (syn *Cryptanthemis*) *slateri*.

The locality is "somewhere on the East coast".

Mark was assisted in his search by Miss Jennie Grove who provided important clues.

Mark reports: "We now know a little more about it, and feel confident about finding it in other areas".

More information cannot be provided until detailed scientific investigation takes place.

Mr Gerald McCraith of the Australian Orchid Foundation advises that the \$500 prize for any other finding is still open.

More in the next AOR. This news came just as AOR was going to press.



*Cymbidium* Valerie Brown 'Eureka', AM/OCSA Grand Champion at the outstanding Orchid Club of South Australia Spring Show. Owner: Graham Morris of Adelaide.



# PESTS AND DISEASE

**Introduction.** Orchid growers are fortunate in that orchids do not suffer from attack by as many pests and diseases as most other cultivated plants. However, the pest and disease organisms which attack orchids cause serious injury or death unless they are controlled quickly. This article will deal with the more common pests and disease organisms of orchids, their characteristics, the type of damage they cause and some control measures.

**The size of things.** We are all familiar with fungi. A mushroom is a fungus, as are toadstools and the green fuzz which grows on stale bread. But how big is a fungal cell in relation to the orchid cell? A fungal cell is about 1.1 microns wide. There are 1,000 microns in each millimetre and there are 25 mm in an inch. So there are 25,000 microns per inch and about 20,000 fungal cells side by side, are needed to make an inch.

Bacterial cells are much smaller than fungal cells, being less than one micron wide, while virus particles are among the smallest things able to reproduce themselves. Nematodes are animals which attack the roots of many plants and are much larger than the cells of an orchid. Insects are much larger than a plant cell and can usually be seen without magnification, although red spider mites (more correctly two-spotted spider mites) are quite small, being about one millimetre long.

**Pest control.** Pests cause damage by sucking the sap from the cells or by eating the leaves or roots. Each type of pest is controlled by applying poisons or by using natural predators.

**Safety precautions in applying poisons. HANDLE ALL PESTICIDES WITH EXTREME CARE!** Wear protective clothing such as rubber gloves, rubber boots, overalls, glasses and mask while applying the chemicals. Pesticides are poisons which are toxic to you as well as the insect or mite. Provide adequate ventilation while spraying. Avoid as much direct contact with the chemical as possible. Wash thoroughly after application.

Exercise care with the plants as well. Wettable powders (WP denotes a wettable powder) do little damage to the surface of the plant's leaves but emulsifiable concentrates (denoted by EC) can cause spray burn; the solvent in the emulsion causes the damage by removing the protective layer of wax from the surface of the plant. WP sprays can be applied at any time during the day but EC sprays cause less damage when applied late in the afternoon or in the evening. If you are unsure of the effect that the chemical will have on the orchids, do not experiment with your whole collection. Apply the spray to a few less valuable plants and observe them for a week for adverse reaction before applying it to the remainder of the collection.

Follow the recommendations on the container. Never use higher or lower rates than recommended. Lower rates lead to build-up of resistant strains while higher rates are costly on the pocket without giving better control. Spray the plants thoroughly, wetting both sides of the leaf.

# OF ORCHIDS

Dr NOEL J. GRUNDON

## Identification and control of common sap-sucking pests.

**Red spider mite, two-spotted mite:**

**Symptoms:** The underside of the leaves become speckled and silvered. Flowers become deformed and spotted. A fine webbing develops when infestations are very heavy.

**Cause:** Minute, pale yellow/green mites with a prominent dark spot on each side of the body. The mites turn red during winter but are present all year round. Infestations are favoured by warm dry conditions.

**Control:** Biological control using predatory mites is successful. The predator can be obtained from Biocontrol Ltd, PO Box 515, Warwick, Queensland. Certain insecticides and fungicides will kill the predator and a list of banned chemicals (eg Benlate, Pyrethrum and most wide-spectrum insecticides) should be requested when you order the predator. Also request a list of safe chemicals (eg Disyston granules and Diazinon sprays) which will kill the mites without harming the predator. Sprays of selective miticides which can be used are Rospin, Neoron, Kelthane, Plictran, Omite, Mitacron, Tedion, Morestan, Morocide and Torque. Wide-spectrum sprays such as Supracide, Metasystox and Malathion can be used.

**Aphids:**

**Symptoms:** Small chlorotic or yellow spots appear on leaves and flowers. Sticky honey dew is produced by the insect and this encourages ants and the growth of sooty mould.

**Cause:** Aphids are small, green to yellow insects which suck sap and occur in colonies on young leaves and flower buds. They are most common in spring.

**Control:** Biological control is possible through many ladybird beetles but it is usually too slow to control the infestation. Apply Disyston granules or spray with Diazinon, Supracide, Metasystox or Malathion.

**Mealy bugs:**

**Symptoms:** As for aphids.

**Cause:** Small, fluffy white sucking insects which often hide in crevices at the base of the leaves or inside the developing shoot. They are present throughout the year.

**Control:** A predatory ladybird is available from Biocontrol Ltd. Disyston granules or Diazinon sprays are successful but wide-spectrum insecticides such as Supracide, Metasystox and Malathion can be used.

**Scale:**

**Symptoms:** As for aphids.

**Cause:** Small, soft or hardened insects, shield-shaped or globular which cling closely to the upper or lower surface of leaves and flower spikes.

**Control:** Disyston granules or Diazinon sprays, or non-selective insecticides such as Supracide, Malathion or Metasystox can be used.



**Thrips:**

Symptoms: Silvery striping on the underside of leaves with black spots of excrement. Flowers can be spotted or distorted.

Cause: Small, black or yellowish insects, elongate and very active. They are most common during spring and summer.

Control: As for scale.

**Identification and control of chewing pests.****Slugs and snails:**

Symptoms: Fleshy tips of growing root-tips are chewed and scarred. Developing vegetative and flower buds and open flowers show chewing marks along the edges of the leaves and flower parts. Slime trails often present.

Cause: Slugs and snails which live in the compost.

Control: Baits containing metaldehyde or methiocarb should be applied regularly.

**Cockroaches and slaters:**

Symptoms: As for snails and slugs but no slime trails present.

Cause: Nocturnal insects which live under pots or debris or in the compost.

Control: Wide-spectrum sprays such as Supracide, Metasystox, Malathion and Diazinon.

**Caterpillars and grasshoppers:**

Symptoms: Leaves rolled together (caterpillars) or holes chewed through leaves and flower buds.

Cause: Mature or immature grasshoppers or the larvae of moths (caterpillars).

Control: Carbaryl sprays.

**Fungi, bacteria and viruses.** Fungi, bacteria and viruses can be divided into three groups:

(a) Non-pathogenic fungi and bacteria which live outside living cells and do not cause diseases. These organisms decompose dead leaves, roots, bark, etc, releasing the minerals and elements in the dead organic material for reuse by living plants. These fungi and bacteria need little contact with the orchid; the minerals they release are washed to the orchid by rain.

(b) Mycorrhizal fungi which invade the living root cells of many plants including orchids and assist them to obtain their food requirements.

(c) Pathological fungi, bacteria and viruses which invade the living cells of orchids and kill them. These organisms cause diseases.

**Orchids and mycorrhizal fungi.** It is true to say that without mycorrhizal fungi there would be no orchids at all. These fungi invade the living cells of the roots of orchids and act as an extension of the root system, carrying sugars from outside the plant into the root of the orchid.

When an orchid seed germinates in the wild, the young embryo uses the small reserves of sugars in the seed to grow a protocorm. If the orchid seedling is to continue to grow, the protocorm must be attacked and invaded by special fungi called mycorrhizal fungi. These fungi

usually decompose organic material in the soil or bark of trees and can kill the orchid seedling if the surrounding medium contains too much sugar or decomposing organic material. In fact, many of these fungi cause root rots in common garden vegetables. However, orchids produce a natural fungicide which kills some of the fungal cells which have invaded the protocorm. The orchid then digests the fungal cells and obtains the minerals and sugars it needs to grow. During this early, saprophytic stage of its life-cycle, the orchid is parasitic upon the mycorrhizal fungus and depends completely upon it for continued growth.

After some time, most orchids develop roots and leaves and produce their own sugars, becoming independent of the mycorrhizal fungus. In mature plants, the mycorrhizal fungus may be completely killed out. Many terrestrial orchids do this but most epiphytic orchids retain some live mycorrhizal fungi in their roots even in mature plants. However, some orchids such as *Dipodium punctatum* and *Galeola* remain parasitic and dependent upon the mycorrhizal fungus throughout their entire life-cycle.

### Orchids and pathological fungi, bacteria and viruses.

Pathological fungi, bacteria and viruses cause diseases. There are three stages in the development of a disease:

(a) Innoculation — An orchid cannot get a disease if the fungus, bacteria or virus is absent. The fungus and bacteria usually arrive as spores which land on the leaf and germinate there when enough water is present. When the spore has germinated, the second stage begins.

(b) Penetration — If the fungus, bacteria or virus is to cause a disease, it must penetrate the leaf or root of the orchid. Entry is usually gained through natural openings such as stomates but wounds are another common way of entry, especially with virus particles. Some fungi burrow directly through the surface cells and gain entry by direct penetration.

(c) Infection — The final stage is when the fungus, bacteria or virus attacks the living cells of the orchid, killing them and digesting them for its own use.

**Methods of controlling diseases.** A number of methods can be used to prevent diseases spreading or to control the organisms once they have gained entry into the orchid. These methods include good housekeeping, good cultural habits, protectant sprays and systemic sprays.

**Preventing diseases by good housekeeping.** Good housekeeping and good cultural habits decrease the spread of disease organisms. The build-up of spores is prevented by removing all dead or diseased leaves or plants and burning them.

Spores and viruses are spread from diseased to healthy plants by wind and water and on tools and animals which includes you, the owner. They are transferred on your hands, your clothing and on the cutting tools you use during repotting. Decrease the spread of spores and viruses by washing your hands between potting each plant and by sterilising cutting tools with sodium hypochlorite (eg neat Snow White bleach) or heating them in a flame to near red heat.

Good cultural habits prevent spread of disease organisms. Water dripping from one pot into another carries disease organisms with it. Good air movement allows orchid leaves to dry quickly and spores on



the leaf are prevented from germinating. Over-watering or poorly-drained composts lead to root-attacking fungi getting a hold.

A good saying is that a plant growing well is a healthy plant and healthy plants are in a better condition to repel attack by disease organisms.

**Preventing diseases by protective sprays.** Protective sprays control diseases by preventing penetration of the leaf by fungus and bacteria. Spores are thick-walled cells which resist attack by most chemicals. Many spores and some virus particles can survive two hours in boiling water whereas the germinated spore is readily killed by chemicals.

Fungal diseases which gain entry via the roots can be controlled by drenching the compost with the appropriate fungicide. Leaf diseases can be prevented by applying protective sprays to the leaf. Such fungicides must be re-applied frequently to retain a protective coating over the leaf surface. These fungicides act by killing the fungus before it penetrates into the leaf. Once the fungus is inside the leaf, these fungicides are useless in preventing the spread of the disease.

**Controlling diseases by systemic sprays.** Once inside the orchid, the disease organism is protected from most of the chemicals at our disposal. Only systemic chemicals can control fungi or bacteria after they have penetrated into the plant.

#### Identification and control of common fungal diseases.

**Black rot, root rot, damping off:**

**Symptoms:** Small water-soaked areas appear on leaves, bulbs and roots. If unchecked, the affected areas turn brown or black and advance rapidly as a black rot into all parts of the plant.

**Pathogen:** The disease is caused by soil-borne fungi of the *Pythium* and *Phytophthora* genera. The spores are spread in water and the disease is favoured by poor drainage, poor aeration of the compost, cool temperatures and high humidity.

**Control:** Remove and destroy all affected parts followed by drenching the plant and compost with Physan, Ridomil, Terrazole or Previcur. Aliette is a systemic fungicide which is sprayed on the leaves and gives good control in infected plants. To prevent reoccurrence of the disease, use well aerated, coarser compost and improve air circulation to assist the leaves to dry quickly.

**Rhizoctonia root rot:**

**Symptoms:** The roots of the plants become infected, turn brown and die. Plants become unthrifty and leaves and pseudobulbs turn yellow and become shrivelled and twisted.

**Pathogen:** This disease is caused by the soil-borne fungus *Rhizoctonia solani*. Spread of the fungus is favoured by warm temperatures and poor drainage.

**Control:** Remove and destroy all infected parts followed by drenching the plant and compost with Terraclor or Benlate plus Captan. Improved drainage using a coarser compost and improved air movement will prevent the disease reoccurring.

**Fusarium wilt:**

**Symptoms:** Symptoms on the plant are similar to those of *Rhizoctonia* root rot but it is distinguished from this disease by a circle

or band of purple or red-purple discoloured tissue in the root or rhizome.

Pathogen: *Fusarium* is a soil-borne fungus which enters the roots and rhizome through damaged or cut surfaces.

Control: All infected parts should be removed and the plants drenched in Benlate plus Captan. When plants are being divided, entry of the fungus into the rhizome is prevented by sealing the cut surface of the rhizome with powdered sulphur or pruning tar (eg Hortico Stoprot pruning spray).

#### Anthraxnose leafspot:

Symptoms: The disease attacks all above-ground parts of the plant. It usually starts as water-soaked areas near the leaf tips and advances rapidly towards the base during warm, damp weather. The line of advance is well marked by a band of black or brown tissue separating green healthy leaf from dead, grey leaf. Many small black spore pustules develop on the decaying leaves and stems.

Pathogen: A number of fungi cause similar leafspots, among them being *Gloeosporium*, *Colletotrichum* and *Glomerella*. These are water-borne fungi whose spread is favoured by high humidity and poor air movement.

Control: Cut off and destroy all infected tissue and spray the plant with copper oxychloride (eg Copper Curit, Oxydul) or copper hydroxide (eg Bordeaux mixture). Prevent the disease reoccurring by improving air movement to dry the leaves.

#### Cercospora leafspot:

Symptoms: Light yellow spots appear on the undersides of leaves. The spot enlarges in an irregular pattern, becoming sunken and purplish-brown to black in colour.

Pathogen: This disease is caused by many species of the genus *Cercospora*. This fungus is airborne and its spread is favoured by high humidity, poor air circulation and warm temperatures.

Control: Remove and destroy all infected leaves. Apply sprays of Captan, Maneb, Zineb, Benlate or Rovril.

#### Flower blight:

Symptoms: Initially small water-soaked areas appear on the flowers. These spots later turn brown, often with a pink margin, and may merge. A grey mould develops on the surface of the flower if the humidity is very high.

Pathogen: This disease is caused by the airborne fungus *Botrytis*. Its spread is favoured by cool, damp weather and poor air movement.

Control: Remove and destroy all infected flowers and old, dead flowers. Improve air circulation and keep humidity below 90 per cent. Sprays of Saprol, Rovril and Benlate will control the fungus.

#### Southern blight, crown rot:

Symptoms: The main symptom is a rapid collapse of the roots, bulbs and lower leaves. Characteristic yellow-brown discolorations develop in infected tissues and small cream, yellow or tan sclerotia appear. The sclerotia are the size and colour of mustard seed and persist in the compost for an indefinite period.

Pathogen: This disease is caused by the soil-borne fungus *Sclerotium rofsii* which causes similar diseases in a wide range of commercial plants. It can kill mature *Phalaenopsis*, *Paphiopedilum* and



Cymbidium plants. Its spread is favoured by damp conditions and warm temperatures.

**Control:** Remove and destroy all infected parts. Drench the infected plant and compost with Physan or Terraclor. Improve air circulation and drainage to prevent reoccurrence of the disease.

#### Identification and control of common bacterial diseases.

**Bacterial soft rot, brown rot, crown rot:**

**Symptoms:** Small water-soaked spots appear in the leaf and enlarge rapidly. Once the rot reaches the pseudobulb or growing point it spreads rapidly throughout the plant. The rotting tissue develops a characteristic offensive odour.

**Pathogen:** The disease is caused by *Erwinia carotovora*, a bacterium which enters the plant through wounds. Spread of the bacterium is favoured by warm, moist conditions and free water on the surface of the plant.

**Control:** Remove and destroy all infected tissues. Drench the affected plant and compost in Physan. Antibiotics such as Streptomycin control the disease but this method is costly and is useful only on valuable plants. Improve air circulation and drainage of the compost to prevent reoccurrence of the disease. Remember to disinfect all cutting tools using heat or sodium hypochlorite before using them on another plant. Failure to do so results in spreading the disease to the next plant.

#### Identification and control of common virus diseases.

**Mosaic:**

**Symptoms:** Symptoms are variable. Commonly small pale areas develop on young leaves and extend into streaks. The spots and streaks become dark brown or black.

**Pathogen:** Cymbidium mosaic virus.

**Control:** The virus is spread from infected to healthy plants by handling and by vegetative propagation and on cutting tools. All plant viruses are propagated with the plant because virus is systemic. Tissue culture does not guarantee freedom from virus. Destroy all infected plants and disinfect cutting tools with sodium hypochlorite or heating to near red heat in a flame.

**Flower break, leaf mottle:**

**Symptoms:** Variable symptoms develop. Elongate or patchy pale areas develop on leaves. With age, the pale areas may become dark brown. In flowers, pale areas develop which may turn brown or necrotic, especially in white flowers.

**Pathogen:** Tobacco mosaic virus — orchid strain.

**Control:** As for Cymbidium mosaic virus.

**Acknowledgements.** In preparing this article, I have referred to excellent papers prepared by various commercial firms and by G.M. Barker (Southern Horticulture, Summer 1984/85, pages 37-38), W. Massey (Southern Horticulture, Summer 1984/85, pages 45-47), K.S. Milne (Department of Horticulture and Plant Health, Massey University, Canterbury, New Zealand), A.J. Merriman (The Orchidophile, April/May 1980, 2: 4-8), H.C. Burnett (Handbook on Orchid Pests and Diseases, American Orchid Society, 1975, pages 15-36) and R.N. Jefferson and F.S. Morishita (Handbook on Orchid Pests and Diseases, American Orchid Society, 1975, pages 2-14). I gratefully acknowledge these sources.

4 Jean Street, Toowoomba, Queensland

# TROPICAL ORCHIDS OF AUSTRALIA

## The Range of Habitats

This extract from the book *Tropical Orchids of Australia* by Bill Lavarack and Bruce Gray is presented here by permission of the publishers, Thomas Nelson, and the authors. It is copyright.

Both authors are professional botanists and hobby growers. They have been on many botanical expeditions, including some financed by the Australian Orchid Foundation.

The book is approximately 27 cm x 18 cm, has 168 pages, 48 of them in colour. It has additional notes and illustrations by Alick Dockrill.

Available from bookshops and the Australian Orchid Foundation. Price \$49.95. If ordered from the AOF, 107 Roberts Street, Essendon 3040 you will be invoiced for postage.

### THE RANGE OF HABITATS

The habitats in which Australia's tropical orchids grow may be broadly grouped into six categories: cloud forests; tableland rainforests; tableland open forests; wet lowland forests; *Melaleuca* forests; and monsoon forests.

#### CLOUD FORESTS

These are areas above 1,000 metres with a high year-round rainfall; they are often covered in cloud. The generally low relief of northern Australia has resulted in such areas being very few, restricted to the tops of isolated peaks. This habitat features year-round high humidity combined with relatively low temperatures and very good air movement. Plants here rarely dry out for more than a day at a time. As this habitat is restricted to mountain peaks and ridges, rocky outcrops are a common feature and many of the orchids occur as epiphytes or lithophytes.

In the low, small-leaved rainforest of this habitat, mosses are abundant, and other epiphytes and vines are prominent. Australia's only species of *Rhododendron*, *R. lochae*, is an obvious element of these forests, which show some affinity with cloud forests in such diverse areas as New Guinea and Tasmania. In northern Australia this habitat is almost completely undisturbed by man, many areas being in national parks. Typical examples of cloud

forest are to be found on Mt Bartle Frere, Mt Bellenden Ker, Mt Lewis, Thornton's Peak and Mt Finnigan.

A few orchids, *Dendrobium fleckeri*, *Bulbophyllum evasum*, *B. lilianae* and *Sarcophilus serrulatus*, are largely restricted to these forests, while other species such as *D. ruppianum* and *D. agrostophyllum* are also abundant at lower altitudes.

#### TABLELAND RAINFORESTS

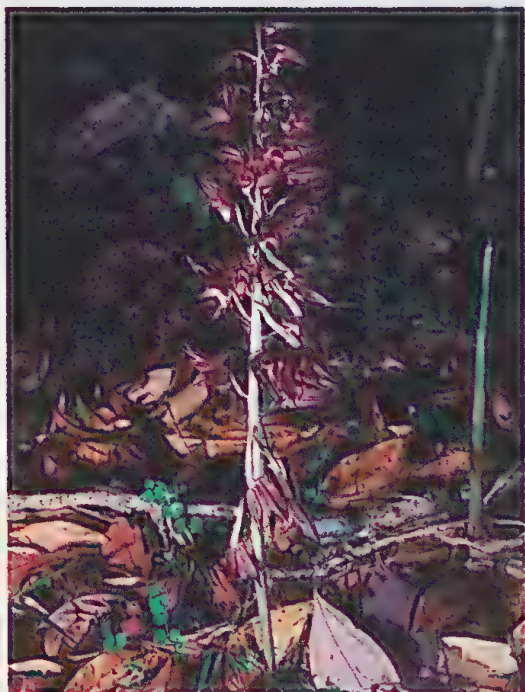
These lie between 500 metres and 1,000 metres in high-rainfall areas. They receive less cloud, rain and air movement than cloud forests and are subject to slightly more drying, although they remain predominantly moist habitats. The tableland topography consists of basically flat or undulating areas dissected by several large streams that have cut deep gorges in their lower reaches. Consequently there are extensive tracts of uniform rainforest differing to some extent in the species composition as the soils differ, but in general presenting a uniform landscape. Conditions are most suitable for epiphytes along the major streams and on eastern escarpments where light and air movement are greatest. The vegetation is usually a tall, well-developed rainforest with a wide variety of tree species and a vigorous component of robust vines.

Typical examples are to be found at Eungella, Paluma Range, Atherton Tableland, Windsor Tableland and the plateau



area of the McIlwraith Range. Many of these areas have suffered extensive clearing, particularly the Atherton Tableland, and almost all tableland rainforests on basalt soil have now been cleared.

Orchids typical of this habitat are *Dendrobium adae*, *D. racemosum*, *Bulbophyllum newportii*, *Mobilabium hamatum* and *Liparis nugentae*. Other widespread species such as *D. ruppianum* and *D. gracilicaule* are also obvious. This is a most prolific orchid habitat, although most plants tend to be concentrated in trees along stream banks and on eastern ridges.



*Eulophia zollingeri*

A saprophytic terrestrial from the tableland rainforests. Photo: B. Gray.

The McIlwraith Range is a little warmer and a little lower than the more southern tablelands and has a distinctive suite of species including *Dendrobium malbrownii*, *D. wassellii*, *Flickingeria comata* and *Trichoglottis australiensis*.

#### TABLELAND OPEN FORESTS

These comprise regions of altitude 500-1,200 metres and with a seasonal climate. Generally speaking, they lie to the west of

the tableland rainforests in areas where the rainfall is insufficient or too seasonal to support rainforest. These areas vary from quite moist in the eastern part to seasonally dry in the west. Light and air movement are usually plentiful but humidity drops to low levels during the dry season.

The vegetation also follows the rainfall gradient, ranging from moist, tall, eucalypt forest of species such as Flooded Gum (*Eucalyptus grandis*) to low woodland of ironbarks. In the east there is often some rainforest influence in the gullies and in sheltered areas. Many parts of this habitat are on poor granite-derived soils. Examples include the western part of Dicks Tableland near Eungella, the Paluma — Hidden Valley area west of Mt Spec, Wallaman Falls area, Herberton area, Mt Spurgeon, and the western part of the Windsor Tableland. Very little of this habitat has been cleared. Though these tableland open forests are not particularly suitable for epiphytic species, in the moister eastern parts a few epiphytes may occur abundantly. Most interesting of these is *Dendrobium bairdianum*, which occurs only in these areas, growing mostly on eucalypts. Other abundant epiphytes include *D. ruppianum* and *D. agrostophyllum*. On the western parts of the tablelands where the climate is drier and more seasonal, two species often occur as lithophytes in creek gorges. These are *D. speciosum* and *Sarcochilus roseus*. The habitat is well suited to terrestrial orchids and the genera *Caladenia*, *Diuris*, *Thelymitra*, *Pterostylis*, *Acianthus* and *Corybas* may be abundant at various times of the year. These are all genera with a predominantly southern distribution in Australia, and they have managed to do well only in the lower temperatures of the tableland open forests.

#### WET LOWLAND FORESTS

These habitats, hot and humid with significant year-round rainfall, are not subject to the great fluctuations in temperature or moisture level prevalent in many tropical environments. Although much of the area of this habitat is flat, there are numerous small hills and sizeable streams.

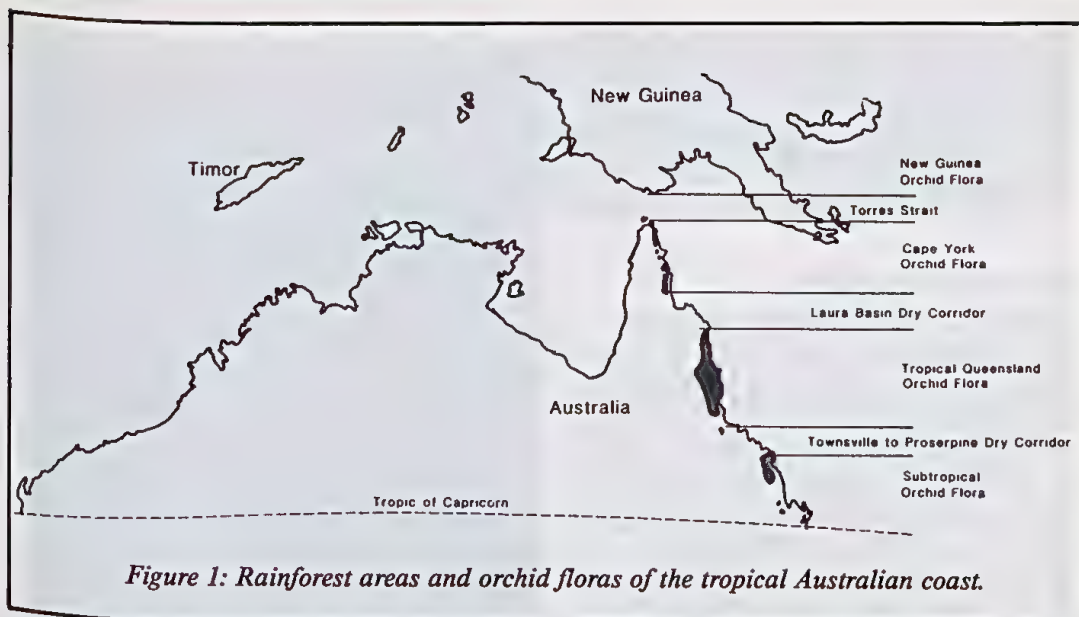


Figure 1: Rainforest areas and orchid floras of the tropical Australian coast.

Included in this type are areas of lowland rainforest and of moist open forest — all in high-rainfall areas. The lowland rainforests include areas of swamp forest and mangrove forest. These different types all support the same basic epiphytic flora, which is usually rather poor except in places where light and air movement are good — along major streams, on exposed hillsides or on emergent trees. The open forests, which allow the penetration of more light, are often rich in epiphytes — an uncommon occurrence in Australia as many eucalypts shed their bark annually. One or two common eucalypts of this habitat (for instance *E. pellita*) do not shed bark and make excellent host trees.

This kind of land, both rainforest and open forest, has been subject to a massive clearing programme, largely for sugar cane farms, and at least half of the original area has now gone. Typical examples of this habitat can be found in the Eubenangee National Park, Mossman Gorge area, Daintree to Cape Tribulation area and the Iron Range area.

Orchids typical of these habitats include *Dendrobium nindii*, *D. luteociliatum*, *Robiquetia tierneyana*, *Phalaenopsis amabilis* and *Vanda hindsii* (north of Coen). Terrestrial species such as *Phaius pictus*, *Corymborkis veratrifolia* and *Hetaeria oblongifolia* may be locally abundant in rainforest areas.

## MELALEUCA FORESTS

Lowland forests and woodlands dominated by *Melaleuca* species are among the major vegetation types in northern Australia. This habitat is variable according to the rainfall, as it covers a broad climatic region, but 'seasonality' is its keyword. *Melaleuca* communities tend to be very wet (often occurring in areas of impeded drainage) from about December-January to April-May. The remainder of the year often sees virtually no rain at all. Light, and air movement, are always good. Humidity is high during the wet season, low at other times.

In most areas, the vegetation consists largely of *Melaleuca viridiflora*, often quite small trees up to about 4-5 metres. The papery bark is well suited to epiphytes, but these are affected regularly by fires, which may reach two or three metres up the trunks of the trees. This habitat type has suffered some clearing in coastal regions, but by and large it remains in good shape in northern Australia.

Only a few epiphytes have adapted to the harsh extremes of the *Melaleuca* forests, although two of these, *Dendrobium canaliculatum* and *D. semifuscum*, may be locally abundant. *D. rigidum* and *D. carronii* are species of the moister margins. Terrestrial species are also a feature of this type of vegetation, particularly in moister areas such as that near Darwin and in eastern



tropical Queensland. *Habenaria* (several species), *Calochilus holtzei*, *Microtis unifolia* and two species of *Arthrochilus* may all be abundant, but many are visible only during the wet season, surviving the dry as underground tubers.

## MONSOON FORESTS

This habitat type is thought once to have been widespread across northern Australia but, due to changing climate and the advent of Aboriginal man, is now reduced largely to relict areas. Monsoon forests or 'scrubs' are, in effect, the drier phase of the rainforests: a habitat which, like the *Melaleuca* forests, is marked by seasonality. The vegetation is fire-sensitive and it now grows only in areas where fire cannot penetrate, such as stream beds or rocky hillsides. Unlike the closed canopy of the moister rainforests, the canopy of this type is not complete: all monsoon forests are deciduous to some extent in the dry season. The humidity is seasonal, although usually it remains higher than in the surrounding *Melaleuca* forest during the dry season. Light and air movement are good and there is a variety of hard-barked trees suitable as hosts for epiphytes. Vines are abundant but the ground layer is rather sparse, and bare rocky areas are often evident. Because of the poor, stony soils on which this type of vegetation grows, it is rarely cleared, although some upland patches have been destroyed in eastern Queensland.



*Bulbophyllum lilianae*

A small but colourful epiphyte of the cloud forests. Photo: B. Gray.

The outstanding orchid of the monsoon forests is *Dendrobium bigibbum*, the Cooktown Orchid of Cape York Peninsula. In the Northern Territory this is replaced by *D. dicuphum*. Other species occurring in these areas include *D. discolor*, *D. rigidum*, *D. teretifolium*, *Luisia teretifolia* and *Saccolabiopsis armitii*.

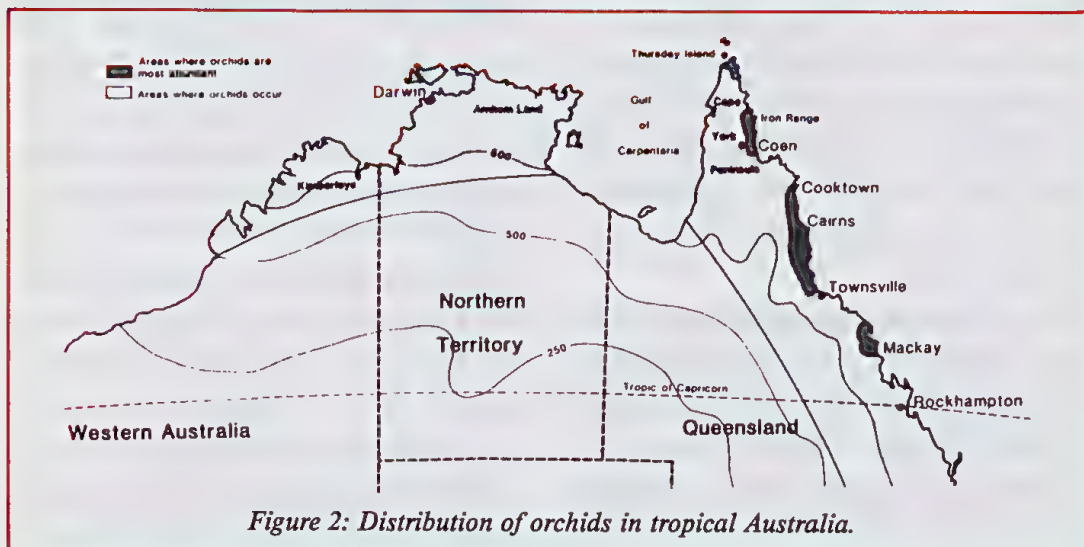


Figure 2: Distribution of orchids in tropical Australia.

## **THE INTREPID TRAVELLERS: DARCY BLOOMFIELD AND IAN CHALMERS**

### **DARCY BLOOMFIELD**

Endeavouring to cement and further improve relations between our interstate counterparts it was determined we put on a display for the Orchid Club of South Australia in Adelaide at their Spring Show which is held in the Floriculture Pavilion at Adelaide's Royal Show.

To accomplish this task, transport was arranged by one, Victor Madden of phalaenopsis fame, through his acquisition of a covered truck, which is just the right size to take a complete display to any show venue, but alas a chain of unfortunate events then started, that would have daunted the legendary Burke & Wills, for we ran out of petrol between Goulburn and Breadalbane, because the reserve tank would not switch over properly so Ian hitched a ride to Breadalbane while I remained with the truck, when after some exploratory investigations and plus fiddling around, the petrol pump miraculously started, the engine started and once again we were on our way, but first to find Ian before he could hitch a ride back with some emergency supplies of petrol and pass one another on the road, but luckily I was able to locate Ian before any further drama could eventuate.

Now that we were again cruising merrily along our way, Ian decided he would have a little nap sitting up when between Yass and Bowning the windscreen was smashed to smithereens by a stone thrown up by a passing semi-trailer. Because of the type of vehicle we were driving, no replacement windscreen was available until we arrived at Wagga 260 km further on, where we were looked after by "Windscreens O'Brien" in such a manner that all I can say is "many thanks" and I can personally recommend Windscreens O'Brien to any motorist in a similar situation. N.B. If you ever want to awaken your companion just smash the windscreen. It really works even if it costs \$316.

The transmission was still making funny noises, which was very worrying to me, but as Ian had been instructed to take no notice of them and as they had been going on before we had commenced, we decided to carry on as per instructions but alas, the good things were not to be for suddenly the noises stopped, the engine stopped and so did we, 90 km from Balranald, right in the traffic lane which was pretty scary, with big heavy semis screaming past and telling us to get off the road which was an impossibility with no transmission.

A young helpful couple offered to send a tow truck back to tow us into Balranald and after reaching Balranald they asked the NRMA to come to our assistance. After 2½ hours wait we realised that no aid was forthcoming. Ian eventually was able to get a lift to Balranald from a young man in a green Ford. On reaching town the NRMA confirmed to Ian that the previous couple had contacted them and stated that the NRMA tow-truck driver would not come out as the couple did not know our registration number and the NRMA did not know Ian's membership number. Ian was then directed across the road to the Ford dealership and after sometime managed to contact the NRMA driver (who works there). After explaining our predicament including the fact that we did not know if the truck was registered with the NRMA, the said driver then stated that it would "cost us". This agreed to, the tow-truck driver then offered to tow our vehicle in for \$140, although Ian thought this excessive he readily agreed to this amount as this was the only tow truck within 130 km. The tow-truck driver then rudely stated that he was not interested in the job.

After contacting a number of garages who all said they were too busy to take the job, one of them obligingly contacted Mr Paul Stevens of the Balranald Tyre Service,



who gladly came out in his wife's car and towed the truck into his garage.

While Ian was away I managed to manoeuvre the truck off the road with the assistance of the draughts created by passing trucks.

By the time Paul had dropped and taken the clutch apart and found out what was wrong, it was too late to obtain another clutch on the Tuesday, so we stayed at a very nice motel situated next door to the garage. Early on Wednesday morning frantic enquiries were made to obtain a new clutch or alternative transport to get us to Adelaide. Neither of these avenues would be available until the next day which would have been too late. The manager of the garage, Mr Paul Stevens, then said he would be able to borrow his friend's horse-float and a four wheel-drive vehicle and drive us to Adelaide himself.

Before transferring the orchids to the horse-float we first had to muck-out the manure and in the true traditions of Murphy's Law the rains poured down until we had finished the operation.

Steven Monkhouse contacted us on Wednesday morning with the news that we had to make it to the Showgrounds by 9.30 pm which could be extended to 10 pm if they knew that we were definitely coming. We actually arrived with the orchids in the horse-float at five minutes to 10 pm and found a large number of willing helpers to unload the orchids from the horse-float and we were then able to set up our display the following morning so it could eventually be judged.

We had agreed on a rate with Mr Paul Stevens prior to leaving Balranald so after completing the discharge of the orchids and being driven to our lodgings, we then commenced to tally the cost of the trip. It soon became apparent that the cost would exceed \$500, however, Mr Stevens felt this was too much and said that \$400 would be sufficient. Mr Stevens then left and drove through the rest of the night, arriving Balranald at 8.30 am just in time to start work.

On completion of staging our display we sat back and was amazed at what we had achieved. The judges from the RHS were very generous and awarded us the bronze

medal for our efforts, which made us very proud. We feel that the secret of our success was that we did not have enough time on our hands to mess it up.

We would like to extend profound thanks to all those people who supported and helped us with supplies, materials and guidance, in particular the Orchid Club of South Australia.

## Orchid Makes Guinness Book of Records

The largest orchid in the world is *Grammatophyllum wallisii* 'Burnham', FCC-BCM-CCC/RHS. The species bloomed for the first time in England in August 1982 and again in August 1984. It is a native of Mindanao in the Philippines.

It is one of the 'sugar cane' type *grammatophyllums*, the largest of the orchid family. They are so large, they are rarely seen in private collections, special houses being required in botanical garden to house them.

These are the first two recorded bloomings of the plant in cultivation and now, of course, they are an endangered species in the wild. In fact they may be lost forever.

The plant had been growing in England at the Burnham Nurseries in Devon for 15 years, so you can imagine the excitement when in 1982 the gentle giant consisting of 27 canes, the longest nearly nine feet tall, burst into bloom. The canes were six inches thick! It just didn't give one spike, it decided really to turn on a display — it produced nine spikes each nearly two metres and a total of 557 flowers each 76 mm across. Sepals and petals were off-white, spotted with dark maroon/brown. The small lip was dark red.

It was such an event that it was featured in the press and on TV and was awarded the highest accolade of the Royal Horticultural Society — its FCC — an honour rarely given. In 1984 it had five spikes. It has been entered in the Guinness Book of Records.

In the wild they grow or grew on giant ironwood trees as epiphytes however, if the tree dies or falls over, the orchids continue to grow as terrestrials.

*Townsville OS Bulletin*

# THE GARDENERS' CHRONICLE

OCTOBER 31, 1857

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## New Plants.

### 212. CYPRIPEDIUM FAIRIEANUM.

*C. foliis loriformibus concoloribus apice obliquis apiculatis, scapo piloso, bractea brevi pallida apiculata, ovario glanduloso-piloso, sepalis glanduloso-pilosis dorsali erecto subrotundo apice recurvo antico breviora concavo oblongo obtusissimo, petalis lanceolatis obtusis decurvis reflexis margine crispis et basi intus fimbriatis, labello sepalis antico duplo longiore glabro oblongo basi convoluto, stamine sterili lunato proboscideo piloso margine antico utrinque unidentato.*

An exquisitely beautiful little species in the way of *C. insigne*, than which the flowers are much smaller. The leaves are narrow and whole coloured, the bract pale green, the ovary deep purple; the back sepal white, richly veined with green and crimson; the petals pale green with a rich purple crisp edge; the lip dull dirty green. It seems nearest to *C. superbiens* of Reichenbach, but is much smaller in every part, has no warts on the involute sides of the lip, is quite differently coloured, and has a long proboscis-like appendage arising from the middle of the concave side of the crescent-shaped sterile stamen. It was shown at the late exhibition of the Horticultural Society in Willis's Rooms by Mr. Fairie, of Liverpool, an enthusiastic collector of Orchids, who we think may fairly claim the union of his name with that of the vegetable genus before us.

## One "r" or two "r's"? That is the Question

K.S. BENNETT

For many years a great deal of confusion and contention has existed regarding the correct spelling of an orchid species known both as *Paphiopedilum fairieanum* and *Paphiopedilum fairrianum*. In the USA the single "r" spelling is by far the most frequently used, while in the UK a double "r" is more often used. However, this general "rule" is by no means inflexible; a double "r" is sometimes seen in an American article while a single "r" occasionally appears in a British publication.

Advocates of the double "r" spelling base their argument on their claim that the gentleman after whom the species was

named was a Mr Fairie of Liverpool. In the December 1983 issue of The Orchid SPECIES NSW Newsletter, the following statement appeared; ... "*Paphiopedilum fairieanum* is the correct spelling, since Mr Phil Cribb has been in contact with one of Mr Fairie of Liverpool's direct descendants regarding this problem" ...

However, with the greatest respect to Dr Cribb, I contend that the actual true spelling of the gentleman's name is immaterial, and that the spelling used in the original publication of the species is the valid one.

This contention led me to seek documented proof of the spelling as it appeared in the



original publication, other literature of the period, and also the spelling used by Stein when he transferred the species from *Cypripedium* to *Paphiopedilum*. My task was successful only because of the tireless help given me by Dr Len Lawler of Sydney University, and I am greatly indebted to him for seeking out and supplying me with copies of the original literature.

Following, in chronological order, are the relevant excerpts;

(1). On page 701, Vol. 2 of *Index Kewensis*, 1857; "Cypripedium Fairieanum, Lindl. in *Gard. Chron.* (1857) p. 740. Reg. Him".

(2). *Gard. Chron.* 1857. p. 740. As quoted above;

"Cypripedium Fairieanum". This name is followed by the Latin description, then a brief description in English, finally a paragraph concerning the gentleman who benched the plant . . . "Mr Fairie of Liverpool, an enthusiastic collector of Orchids, who we think may fairly claim the union of his name with that of the vegetable gem before us."

Thus, two of the most prestigious publications of the era have mentioned the new species, described it officially for the first time, and told us that the gentleman who showed the plant deserved to have it named after him. Please note that in all instances, his name, and the name of the species is spelled with one "r".

(3). The next reference to the new species appears on page 128 of Supplement 3 of *Index Kewensis*, and, being in error as shown below, may well explain how the confusion regarding the spelling began; "Paphiopedilum Fairieanum, Pfitz. in *Botanische Jahrbucher* XIX p. 41, (= Cypripedium Fairieanum). Bhotan."

(The above is in error, as Cyp. Fairieanum is not as above. See (4) below).

(4). In *Botanische Jahrbucher* XIX p. 41 (Pfitz.); "Paphiopedilum Fairieanum (Lindl.) Bhootan."

Thus, in (3) above, Pfitzer was quoted in error.

(5). On Page 203, Supplement 16, *Index Kewensis* 1892; "Paphiopedilum fairieanum (Lindl.) Stein, *Orchideenbuch* (1892) (*Cypripedium fairieanum*.);

(6). In Stein's *Orchideenbuch* p. 467 1892; "Paphiopedilum fairieanum (Lindl.) Stein".

This proves that when Stein transferred this species from *Cypripedium* to *Paphiopedilum*, the original spelling of *P. fairieanum* was maintained, and an exhaustive search of the literature has revealed no evidence that this spelling has ever been officially changed.

As such, I propose that the foregoing evidence\* be accepted as proof that the correct spelling of the species in question is *Paphiopedilum fairieanum*.

\*Items 1, 2, 3, 4, 5 and 6 are printed exactly as they appeared in the literature of the late nineteenth century, and as such do not all conform to the rules of present-day taxonomy regarding the use of lower case letters for specific epithets. Also, in Items (3) and (4), the mis-spellings, Bhotan and Bhootan, are reprinted exactly as they appeared in the original literature.

57 Rogers St, Lakemba 2195

## Spring in the Gardens

With commendable enterprise the Sydney Botanic Gardens management has set out to establish a Spring Festival. This year was the second occasion.

Unfortunately the first day was overcast with rain threatening and only the really-keen gardeners came.

There was much to interest them including competitive garden displays in a large marquee. Judges awarded first prize to the Orchid Society of NSW, and second prize to the Bromeliad Society.

Plants, including orchids, were on sale.

The Orchid Species Society organised a competitive display in one of the glass-houses. The astounding range of orchid species was a revelation to all who saw them.

For the remaining days of the Festival the rain came gale force and only the determined flower-lovers attended. In spite of which the OS of NSW sold many orchid plants.

It is hoped the disastrous weather does not affect the holding of a Spring Festival next year.

# Society News

## VOC Winter Show

Grand Champion was Mr L. Leamon's *Paphiopedilum* Orchilla 'Chilton'. Most Pre-eminent Entry went to *Zygopetalum mackayii* owned by Mr and Mrs Lowe. This lovely species when well flowered can hold its own against the toughest competition.

Reserve Champion *Paphiopedilum* was a clone of the cross *P. Windhover* x *P. Amanda*. Two other crosses to watch are *P. Lyric* x *P. Troyland* and *P. Colonist* x *P. Amber Star*. Mr R. Evans won first and second in the seedling class with plants of these crosses.

A wide range of early-flowering cymbidiums dominated the show. Winner of Best Cymbidium was Mr E. Kettle's *C. Pendragon* 'Broadmoor', a fine intermediate type. A clone of this cross was the pod parent of the Best Seedling, the donor parent being *C. Jolity*, the owner being Mr J. Douglas. Second prize in this class went to a progeny of *C. Fanfare* x *C. Sleeping Beauty*, benched by Dr J. Coker and F. Gaultlett.

In the class for Affiliated Society Exhibits the first prize went to Mornington Peninsula Orchid Society, and second prize to Melbourne Eastern Orchid Society.

The 58 classes in the schedule covered a very wide range of genera.

## Spring at the VOC

The Victorian Orchid Club staged its main Spring Show at St John's Church Hall, Toorak in mid-September.

The schedule covered 59 individual classes, six special trophies and six types of displays. In a big field like this the champion had to be outstanding. It proved to be *Cymbidium* Arunta, a multi-coloured clone from the cross *C. Moriak* x *C. Wyanga* registered by Adelaide Orchids in 1981. Mr B. Cusack is the owner. Mr R. Hodgins presented the Reserve Champion *Cymbidium* Ovation. The prize for Third Best Cymbidium went to a *C. Jubilation* benched by Mr E. Bevan.

Winner of the Species Specimen Class was a fine *Coelogyne cristata* owned by J. and B. Brighton. This clone was voted the Most Pre-eminent Entry.

Best Cattleya was the classy, small-growing *C. Hazel Boyd* 'Apricot Glow' entered by the partnership Mercer and Borschmann.

The G.E. Floyd Award for a group of nice softcane dendrobiums was won by Mr M. Pender. E. and A. Bevan won the Harry Schultz Memorial Award for Best Australian Native with *Dendrobium speciosum*. The Kirkbright Award for Three Standard Cymbidiums was won by Mr R. Hodgins.

Displays with 2.5-metre frontage are judged for the R. Vick Award and the winner was Mr R. Evans. Class 3 for small displays went to the team of Coker and Gauntlett and the VOC Award for displays of merit was won by Mr R. Hodgins.

Affiliated Societies Displays was won by Melbourne Eastern OS with Species Society of Victoria second.

The VOC also had a show at Parkmore Shopping Centre in October but details were not to hand at time of going to press.

## NSW Spring Show

Sunday setting up at Roselands has always been a day of organised chaos which just comes together in the few minutes before 4 pm. But this year it seemed to come together differently. Societies had been asked to make displays more open but each seemed to have a goodly number of excellent plants and the open style did not seem to work out.

So where was the difference? Colour. More colour! That was it. Fewer cymbidiums but in a stronger and wider colour range. In the past most good cymbidiums were white or white with a flush of colour. This year there were more good strong yellows, deep reds, lovely pinks and nice greens. Virtually a whole new generation of hybrids.

A wide variety of cattleyas (love those



minicats), multi-coloured softcane dendrobiums and many good quality and unusual species, including terrestrials, all added up to a new emphasis on colour. Isn't that just what the public love and judge an orchid display by!

Grand Champion was *Cymbidium* Highland Mist 'Lalchere' owned by top South Coast grower Mr W. Hughes. Reserve was C. Burgundian 'Sydney' located in the Bankstown display.

The natives this year were better than ever. They dominated the lower ground floor display. Being such a good year for *Dendrobium speciosum* it took a particularly good one to be Champion. This plant was in the Panania-East Hills display.

Champion of the minicymys and intercymys was C. Amesbury from the Bankstown display. Champion Specimen Plant was magnificent *Cymbidium* La Novia from Cecil Park Orchids. They also won Champion Phalaenopsis with *P.* Alice Gloria. Champion Cattleya was a magnificent C. Dundas 'Jane' brought all the way from Taree by Bob Zellar, and unfortunately slightly damaged in transit. It carried five large white and shapely flowers on one stem.

Paphiopedilum Champion was a seedling of the cross *P.* Paeony x *P.* Inferno owned by Les Peaty. The Exotic Species Champion was a lovely *Cattleya trianae* from the North Shore display which later was awarded HCC.

Champion Any Other Genera was *Ascoenda* Fiftieth State Beauty 'Orchidglade'.

Bankstown OS showed its strength by winning Best Affiliated Society Display. Parramatta was second. Usually-dominant North Shore was third. Other societies were in the order: Sutherland, Eastwood, Cumberland, Sydney and Western Suburbs.

The class for small displays was won by Five Dock, then Orchid SPECIES, Kuring-gai. The Blue Mountains OS won Best Display by a country society.

The class for a Tabletop Display of Natives went to a neat display by Col Brandon.

All the native displays were outstanding. Cumberland did well to come first. Panania-

East Hills was second, then Kuring-gai, North Shore and ANOS. Tabletop displays was won by the father and daughter team of Madden and Bodell, with the Chalmers Family second, and Hansen and Cox third. Small tabletop display was won by Margaret Honori.

Two attractive commercial displays were of great interest. One by York Meredith was of species orchids only, backed by a world map with ribbons leading from each species to its country of origin. The other exhibit was by Banana Coast Orchids from Coffs Harbour. It consisted of a large number of softcane dendrobium hybrids in a wonderful range of colours.

### Ringwood Show Stirs Public

In a hectic weekend Ringwood Orchid Society members filled the upper and lower malls of Eastland Shopping Centre with tier upon tier of choice orchids. Confronted with this beautiful spectacle the usually easy going Monday morning shoppers changed their tempo.

An exhibitor nursed a huge specimen plant of *Coelogyne cristata* in a plant crowded vehicle. It had been copiously watered and, unable to move, the plant leaked. There's a moral to this: sailors exult to "A wet sheet and a flowing sail", but the victim failed to exult to "A wet seat and a flowing tail".

Grand Champion was *Cymbidium* Sensation 'Royal Beenak' owned by C. and A. Halls. Most Pre-eminent Entry was *Phalaenopsis* Princess Grace x *P.* Elanora Schuffer, owned by J. and R. Garling.

Mr Ern Kettle's massive nine metre by three metre display was judged Best Display, with C. and A. Halls second.

In a class for Best Display incorporating a theme first prize went to Mr D. Oliver, second to Mr and Mrs Newman.

Other prize-winning displays were created by Mr F. Leach, Dr J. Coker and Mr E. and Mrs S. Bates. Display classes for novices saw Mr R. Kriekenbeck win first prize, with Mr G. Hill and S. and R. Aumann second and third.

Outstanding plants were Mr R. Gillespie's *Cymbidium* Baldwin 'Tom Ugly', the

Champion Intermediate *Cymbidium* Peepers 'Santa Barbara' and the second in his class *Cymbidium* Embers 'Yowie Bay', the former owned by Mr Kettle and the latter by Mr R. Gillespie.

Mr Kim Heinze of radio fame opened the show. A raffle in aid of Kim's Cancer Research Fund raised a substantial amount.

### A Show With a Difference

The South Coast Orchid Club have just had their annual Spring Show which was held in a shopping centre mall in the southern suburbs of Adelaide. The South Coast Orchid Club who are affiliated with the Orchid Club of South Australia held this year's show during September 23 to 28.

The theme was "Orchids in the Grand Prix" with a Telecom connection. You might ask what is a Telecom connection? Well, in this case, Telecom Australia are involved with the first Adelaide Grand Prix in November supplying telephones, lap-score boards and television broadcast vans and much more. Again you might ask, what has this to do with orchid shows? To answer the question, Telecom are using a Formula Two racing car for their promotion purposes. We were able to combine our orchid show with Telecom Australia's Grand Prix Promotions, giving us a very spectacular orchid display.

In combination with Telecom's racing car, Telecom also supplied an information board with a video and TV movie from the driver's seat of a Formula One car which ran every day during the show.

All exhibitors followed this theme when displaying their orchids and produced a magnificent sight. The orchid displays were spread over two floors of the shopping complex.

The South Coast Orchid Club have a membership of 190 members, interstate and local.

Due to the number of plants plus the value of the racing car I would feel this spectacular would be valued around \$80,000 to \$100,000. Not bad for a small club.

Show Marshal, Stephen Monkhouse

### Fine Native Show

The Spring Show of the ANOS Far North Coast group was held in the Lismore Shopping Square on the last weekend in August. The Centre Plaza was an ideal setting.

Keith Skaines set up an excellent collection of native species demonstrating the many types of culture such as bark and blue metal in pots, gutter-guard cylinders and plants grown on well-weathered timber and tree-fern slabs.

The most eye-catching of the show was the magnificent effect created by the large number of *Dendrobium speciosum* plants. Varieties with flowers ranging from pure white to deep buttercup-yellow were in this section. Visitors and growers alike commented that it was the best group of this species they had seen.

Grand Champion was *D. Wonga* exhibited by Ted and Barbara Gregory. This plant created interest because it showed what growers could expect from hybrids, particularly when one parent happens to be *D. speciosum*. The plant has been nominated for the Ira Butler Award.

The Gregorys dominated the major prizes, a *D. kingianum* was the Champion Species and Reserve Champion, and their *D. speciosum* var. *grandiflorum* became Champion Specimen. To top it all their fine *D. × delicatum* was judged Champion Orchid for Culture.

A doubtful decision was the awarding of Best Australasian Species to *D. rhodostictum*. New Guinea is technically not a part of Australasia. Prizes in other classes were well distributed among members.

### Parramatta Spring Show

Parramatta Orchid Society is a large society and many members have large collections. Therefore the society was able to stage a very impressive show at the Stackland Mall, Merrylands.

Grand Champion was *Cymbidium* Kathy Lovell owned by Mr F. Jones. This plant was from a crossing of *C. Green Nymph* and *C. Wyanda*. Reserve Champion went to *Cattleya* Sylvia Fry 'Dundas' skilfully flowered by Mr H. Sheaves.

The show was notable for an impressive



array of minicymys and intermediates. The Champion Minicym was *C. Eikoh* owned by Mr and Mrs Evans. Intermediate Champion was *Cym. Little Bighorn* owned by Mr and Mrs Pauley. Mr W. Tuckwell was proud owner of both the *Paphiopedilum Hybrid* and *Species Champions*. The former was from a cross of *P. Tearlath* and *P. Winchilla*, the latter *P. boxalli*.

Champion Other Genera went to *Vanda Ratuna* x *Ascocenda Yip Sum Wah*.

### ANOS Central Coast

Each year the Spring Show of the Central Coast Group of the Australian Native Orchid Society gets bigger and better. This in spite of the fact that most natives, particularly those in the *Dendrocoryne* section of *Dendrobium*, were late in flowering.

Grand Champion was Chris Arnott's *Dendrobium Wonga*. A cross between *D. speciosum* and *D. Hastings* which has proved very successful. Reserve Champion was a clone of the cross *D. Aussie Bonanza* owned by Frank and Isobel Chapman. *D. aemulum* showed just what a fine specimen it can be grown to by winning that section for Vern Frampton.

Chris Arnott once again demonstrated his growing skill by winning Best Species Plant with a fine *D. kingianum*, also Best Species Seedling also with *D. kingianum*.

### First Show at Noosa

The Noosa District Orchid and Foliage Society held a very first show the last weekend in August. Venue was the Noosaville Baptist Church Hall. A feature was the best display of cymbidiums ever seen in the district.

Grand Champion was a well-flowered *Lycaste Kooleena* belonging to Mr W. Alcorn. Reserve Champion was *Paphiopedilum Tangold* grown with obvious TLC by Beryl Pederson. Best Specimen was *D. x delicatum* 'Bluff' belonging to Barry and Coral Anderson. Best Species went to Maurie Clench's fine plant of *Laelia harpophylla*.

### Melville Orchid Society

Members of the Melville Districts Orchid Society of West Australia have, once again, successfully staged their Winter and Spring Shows, in the Roy Edinger Centre, Stock Road, Palmyra.

The Winter Show was held on the weekend of July 20 and 21. Despite the cold weather leading up to the time of the show, members were able to exhibit many fine blooms.

L. & N. Munnings, who travelled all the way from Bunbury, were awarded the Grand Champion, with *Paph. Pulgrove Tree Village* x *Winston Churchill*. The Reserve Champion was *Blc. Sylvia Fry* 'Supreme' exhibited by Mr and Mrs L. Gale. The Best Novice entry of the show was *Cymbidium pumilum* 'Album' x *Auriga* 'Merrilong' exhibited by F. & J. Herbert.

The Spring Show held on August 31 and September 1 with a record number of entries and exhibitors. The quality of the orchids on display and the varied genera represented, made this show a sight to remember. *Wilsonara* 'Salgrin' exhibited by Mr M.J. Clow was Grand Champion of the show. *Phal. Spring Flush* exhibited by Mr & Mrs L. Gale was Reserve Champion. *Paph. Millionette* 'Red Flame' x *Everett Wilcox* 'Hastings' was the Best Novice entry, exhibited by J. Sullivan.

The shows were certainly a credit to the members who exhibited their blooms and who worked so tirelessly to ensure their success.

(Mrs) C. Sullivan

### Townsville OS's Spring Show

The Townsville Orchid Society is enjoying an era of outstanding success stories.

One of which was their Spring Orchid Show held on September 20, 21 and 22 in the Townsville Administration Building.

Perhaps the show's success was largely due to the publicity obtained from the media, including television, radio and the two local newspapers. However, the individual members' enthusiasm and creative ideas in setting up their displays, their untiring work throughout the show in manning the main entrance, raffle tickets, security and the sales tables and the actual planning

of the show by the committee was all part and parcel of the successful outcome.

The show committee chairman, Mr Ray Nicholls has now organised three very successful shows. Mr Ron Merri's efforts as show marshal are always untiring and deserve high commendation. These people of course could not manage without their helpers. In fact it would be fair to say that the Townsville Orchid Society's committee enjoys complete support from all members.

The Grand Champion bloom of the show was won by Tony and Tess Kapcelovitch, with *Ascocenda* Happy Beauty. They received a trophy donated by Laharum Orchid Nursery.

The Champion Specimen plant was won by Les and Gail Wharton with their beautiful specimen of *Dendrobium discolor* (our native Golden Orchid). Ted Boon won the Reserve Grand Champion with *Tetratonia* Black Knight.

Laharum Orchid Nursery won the Best Commercial Display and the Best Group Display was won by C. & W. Sewell, T. Richards and B. & G. Verheyen.

The New Members Group Display was very well thought out and presented, with a certain flair always shown by this group, lead by older members! Mike Richards and Sandy Goldsworthy.

A fascinating display was staged by the Townsville Bromeliad Group and last but not least was the beautiful display of cymbidium blooms organised by the society's sister society South Coast Orchid Society of Adelaide. These lovely blooms are always appreciated as cooler-growing orchids so seldom seen by people in the tropics. Mr John Nicols of Adelaide was the owner of the Champion Cymbidium.

Comments heard from the general public who attended the show focused on the outstanding perfume and spectacular colour of the Spring-blooming orchids. From all accounts, everyone who attended the show were very well satisfied and eagerly awaiting the next orchid show. It was also a great financial success, breaking all previous records.

*Thelma Keith (Publicity Officer)*

## Cumberland Orchid Society

This active society is centred around the rolling hills of West Pennant Hills and Castle Hill, fast-growing outer suburbs of Sydney.

The show was held in the Castle Towers Shopping Centre during September 4 to 7. It was Mr J. Hestelow's show. He was most successful member, winning Grand and Reserve Champion with two fine potfuls of *Cymbidium* Novocastrian 'Nancy', also a string of firsts and second in various classes.

Mr B. Fletcher also did well, including Best Australian Native Hybrid with *Dendrobium delicatum* 'Kimish'. Mr L. Mountford benched *Oncidium* Southfield x *O. Ann's* Shield judged Best Orchid for Colour. The Chas. W. Smith Trophy for Best Miniature Cymbidium was won by Mr T. Turner with *Cymbidium* Wakakusa 'Green'. The remaining prizes were well distributed among members.

Floral art was a feature, the prizes going to Mrs E. Allen, Mrs P. Hansen, Mrs J. Tweedle, Miss L. Bedding, Miss L. Nichols and Mr R. Green and Mr B. Fletcher.

## Spring at Berowra

The Berowra Orchid Society is centred on the ridges above the Hawkesbury River and Broken Bay, an imposing area of sandstone slopes and eucalypts. The Spring Show was held in the fine new community hall. Grand Champion was *Cymbidium* Highland Mist 'Lalchere' owned by Dr J. Burstal. Reserve Champion went to Mr Ted Gogerly's *Dendrobium falcorostrum* 'Anembo', a fine plant which gained an Award of Merit and is pictured in the 1984 Awards book.

Best Specimen Australian Native was the huge plant *Dendrobium kingianum* 'Bungan Castle' grown by Mr Eric Webeck. This fine clone was awarded an Award of Merit a few years ago. Ted Gogerly had the Best Specimen, a multi-spiked *Cymbidium* Rosarita 'Gwenifer'. Champion Orchid Exhibited by a Junior went to young Kirk Rhodes with his *Dendrobium* Andrew Perrson, the primary hybrid from *D. falcorostrum* and *D. speciosum*. Best Coloured Orchid was Mr Dick Hindwood's *Sophranitis coccinea*.



A feature of the show was the Friday evening champagne and chicken supper.

Elaine Svenson was the Most Successful Exhibitor in Floral Art. Floral art has always been an important feature of Berowra shows and to win in these classes is a real achievement.

### Manly-Warringah Show

This society is centred on Sydney's northern beaches, an area with a splendid climate for most genera. Mona Vale Community Hall was the venue. Tom and Edith Price are making a habit of staging the Grand Champion at this show (at other shows too come to think of it). This year their Grand Champion was *Cymbidium* Novocastrian 'Nancy', beautifully grown and groomed. Champion Orchid Other Than *Cymbidium* went to Don Massey's *Rolfeara* Excelsior 'Painting' x *Potinara* Gordon Sui 'Red Radiance' which with all those red genes from four genera in its sap just had to be brilliantly coloured. Champion Native was the hybrid *Dendrobium* Star of Riverdene, benched by Wal and Jill Upton. Champion Specimen was a fine *Cymbidium* Jessie Blakiston 'Barbara Ball' grown by Gwen Olsen. This minicym had many pendulous racemes carrying a mass of deep burgundy-coloured flowers. Best Intercym went to *Cymbidium* Showart 'Glamour Ann' owned by R. and J. Petith.

There were many nice displays by individuals and groups, including one from the Beacon Hill Garden Club. Prizes were well distributed among members. The 52 classes included six for floral art and this proved a very nice part of the show.

### Eastern District OS

The transformation from a plain church hall to a fully-operational orchid show can only be described as breathtaking.

This was definitely the case at Eastern District Orchid Society's recent Spring Show, held in the Guardian Angels Hall in Bay Terrace, Wynnum.

Three hundred and forty orchids of different genera, colour and size combined to make this one of the best orchid shows baysiders have yet had the pleasure to feast their eyes on.

Congratulations to the winners Les and Phil Cotton who are very well-known orchid identities. They won Grand Champion with a magnificent *Paph. sukhakulii*. Bill Jackson thoroughly deserved Champion Specimen with *Lc. Culminant* 'La Tuilerie' boasting 23 mauve blooms. Stan and Ethel Riggall won Queensland Orchid Society's most Pre-eminent Medallion with a beautifully marked yellow *Den. speciosum*. The Australian native display was one of the most outstanding features of this year's show.

Show captain Graham Gash and his crew really ought to be congratulated.

Ken Unsworth

### Orchid Society of WA

The Winter Show venue was Garden City, Booragoon. It attracted over 300 entries. All the plants were of high quality and the judges had a difficult task. Grand Champion was *Cymbidium* Winter Wonder 'Lola' exhibited by Mr and Mrs Janney. The also owned the Champion Paphiopedilum, a cross between *P. Blondell* and *P. Challow*. Champion Cattleya was *Blc. Sylvia Fry* 'Supreme' belonging to Mr and Mrs L. Gale. Champion Native and therefore winner of the Ira Butler Trophy was *Dendrobium* Hilda Poxon, owned by Mr and Mrs H. Goodchild.

Melville Orchid Society won the Large Display Section. Small Display went to Mr I.M. Duncan with Mr D. Bain second.

The floral art was most attractive, the prizes going to Mrs B. Beisley and Mrs M. Hall.

### Orchid Species Society of Queensland

This Spring Show received first-class publicity thanks to the work of show secretary Charles Pulsford and assistants Beryl and Dot with Allan Robinson. They arranged a double-page colour-spread on orchid species which appeared in the Brisbane Sunday Mail colour magazine on the Sunday before the show. Also Rod Mackinney compered a gardening session on orchid species on the Saturday before the show.

# Orchid People

Jim Male and wife Joan came down from Beerburum, Queensland to attend the NSW Regional Orchid Conference at Terrigal.

Jim has made a very good job of editing the Caboolture Orchid Society bulletin *Les Orchidaes* and only relinquished the task a couple of months ago. Somehow the rumour got around that Jim and Joan were off on a long jaunt around Australia. "Not yet," said Jim, "but we want to see the north-west in a year or two".

Jim's favourite ploy as editor was to bail up fellow growers with any handy lethal weapon and make them describe their five favourite orchids. There always seemed to be someone's five favourite orchids in each issue. General impression over several issues is that there are a large number of favourite orchids because every victim named a different five. But how could anyone be content naming only five?

Still, it's surprising how much can be learnt from reading these descriptions.

Jim grows paphs, cym and cattis.

☆ ☆ ☆

Otto Beetz is an inveterate orchid conference participator who decided to forego New Zealand and come to the NSW Regional Orchid Conference instead. Otto lives in Kindred, Tasmania, is an active member of Devonport Orchid Society and finds the climate ideal for a wide range of genera, everything except the really-warm growers.

Otto migrated here to a job with the Tasmanian Electricity Authority and worked as an engineer until his retirement.

☆ ☆ ☆

A.B. Porter, Abee or Abe to everyone, must hold the record for number of years service to an orchid society, having been on the management committee of the OS of NSW for over forty years.

He served a three-year term as president, has served on many sub-committees, and has been official photographer for shows and awards.

Abe has been to every World Orchid

Conference since the fourth at Singapore and to every Australian Orchid Conference. His superb photographic record of all these is immense and has been the basis of many fine slide shows at many societies.

Now Abe has decided to retire from committee work, but we'll still see him around for years to come, and at more orchid conferences.

☆ ☆ ☆

Mr Jack Coleman has been honoured with the first life membership of the Melville Districts Orchid Society.

Together with Mrs Doreen Fleming and Mrs Lola Janney, Jack was instrumental in forming the society 10 years ago. The inaugural meeting, at which Jack was elected foundation president, was held on March 20, 1975, with 31 orchid lovers present. Today, the Melville Districts Orchid Society's membership is 285.

Jack held the position of president for three years and is still a member of the management committee. He is also programme manager, show committee chairman, cultural notes writer for the monthly newsletter and a member of the judging panel for the Orchid Society of WA (Inc).

In his early days, Jack's interest was sailing, but he turned to horticulture, specialising in Gerberas. As a member of the Gerbera Society of Western Australia, he was involved in hybridising and judging. Later Jack's interest turned to orchids. He was elected to the management committee of the Orchid Society of WA (Inc) in 1972 and the judging panel in 1973. In 1979 Jack was the first West Australian to grow an orchid to be awarded "The Australian Orchid of the Year" with *Cat. Karae Lyn Sugiyama 'Sharee'*. Jack was also a foundation member of the WA Native Orchid Study and Conservation Group.

Congratulations Jack! Your life membership is well deserved. May you continue to maintain your interest in the Melville Districts Orchid Society and the culture of orchids for many, many years to come.

(Mrs) C. Sullivan



# MAIL BAG

## Letter from a Top Gardener

The Editor,

I refer to comments on pages 40 and 41 in the Autumn issue referring to *Disa uniflora*, the growing technique and the introduction to Australia. The growing technique was not worked out by Gerald McCraith and *Disa uniflora* was introduced to cultivation in Melbourne some ten years before the Orchid Foundation.

When I was in charge of the nursery as chief propagator at Melbourne's Royal Botanic Gardens I obtained seed of *Disa uniflora* from a botanic garden in South Africa in 1973.

These were planted straight away, and a number germinated in a short time. When large enough to handle they each potted up in five centimetre pots in a mixture of peat moss and sand. They all grew but I was not satisfied with their progress and repotted them into several different mixtures, including one of pure-growing sphagnum moss. The plants in the latter made better progress. Later all plants were put into pure sphagnum.

They grew strongly and produced many offsets. The first flower spikes were produced in 1976 and the plants were in flower in January and February 1977.

Gerald McCraith often visited my home to photograph various orchid species as a record for the Orchid Foundation. As he mentions in his article on *Disa uniflora* in AOR, Vol. 48, No. 3 he passed on to me a batch of seedlings in a very sad state, and knowing of my method of growing them he asked me to do what I could with them.

I managed to save about 30 of these seedlings, growing them in pure sphagnum moss. They thrived and we soon had a great many plants.

Gerald had also pollinated a couple of plants which came through quarantine, and both he and Ron Pearce raised a number of seedlings.

These plants turned out to be distinct from my plants in that they flowered in November and December, and were shorter in stature, averaging 25 to 30 cm against the 50 cm of my form.

At that time I had a large number of *Disa uniflora* propagated from the 1973 introduction. Also quite a number had been distributed to various orchid growers, and quite a number to members of the Alpine Garden Society.

I hope you will understand why I have written this letter. It is just to get the record straight. In no way would I take any credit away from Gerald and Ron for the great work they have done. I have known and respected both for many years.

Yours sincerely,

Cliff Grosvenor,  
4 Nyah Court, Broadmeadows 3047

The Editor,

Under the heading "New Native Society" published in the Autumn 1985 issue of the Review on page 43, it is stated that the Gold Coast Native Orchid Society "IS SPONSORED" by the Gold Coast Orchid Society.

Although the work of establishing the new shadehouse and rockery at the Currumbin Sanctuary was commenced and largely completed by a sub-committee of the Gold Coast Orchid Society, the work is now in the hands of the Gold Coast Native Orchid Society which is *not* connected with or *sponsored* by the Gold Coast Orchid Society.

Please publish a correction of this fact in the next issue of the Australian Orchid Review.

Yours faithfully,

K.G. Jones  
Honorary Secretary

# BOOK REVIEW

## **Basic Guide to Orchid Growing**

This is the revised edition of a booklet by Ross Maidment. It is written for Queensland conditions. Within warm-growing areas it is an excellent guide for beginners. Many orchid societies sell it at shows for around \$2.50.

## **Growing Orchids — Book 4, The Australasian Families**

An indispensable book for all interested in Australian orchids. It is the fourth volume in the remarkable series by J.N. Rentoul, culminating over fifty years of observing, growing and writing about orchids.

This volume will take you into fascinating aspects of orchid evolution, history, conservation and the cultivation of Australian terrestrials and epiphytes.

Jim Rentoul states at the outset: "This book . . . is intended as a guide to those people who wish to cultivate, propagate and possibly re-establish these plants in suitable environments to preserve them.

"While these may be admirable motives their removal and cultivation should not occur unless from threatened areas. Most . . . are protected by laws."

It can be added that written permission from private landowners is required. Rarely do respective Forestry Departments in each State allow collecting unless an area is being felled, and again a written permit is necessary.

The first section deals with terrestrial orchids, illustrated by delightful pen-drawings by the author's grandchildren. Members of native orchid societies are now learning to grow and maintain terrestrials very well. They will relish this section. Hopefully it will induce many to support measures for their conservation.

Pollination and natural hybridisation are intriguing aspects of all orchids, and our Australian natives are particularly interesting. Accordingly this topic rates a chapter.

After reading it one feels the subject is worthy of a book.

Cultivation, potting materials and potting mixes rate chapters. There is additional information on cultivation as each species is described.

Jim Rentoul has had exceptional success growing epiphytes on trees at his Somers property, but is the first to admit that his growing methods may not be as successful elsewhere. The art of growing is to adapt your conditions to the plant's needs. He admits a few failures. His methods, combined with background data on habitat range will greatly assist growers in most areas where orchids are cultivated.

After the terrestrials the centre of the book is devoted to illustrations in colour, the same pattern as in the previous books. All these illustrations are beautiful, and nearly all of them are from transparencies taken by the author. Some of the New Zealand species are from photos taken by George Fuller of New Plymouth. Mr Fuller also supplied many illustrations for Alex Hawkes *Encyclopaedia of Cultivated Orchids*.

There appears to be an error in an illustration on page 57 described as *Chiloglottis gunnii* is undoubtedly a *Pterostylis* affinity *furcata*. In a book as wide in concept as this one a few errors are bound to creep in, and this reviewer has made errors in less-involved compositions. A minor error is a reference to Robert Brown spending eighteen months in Australia, whereas it was nearly five years. Also the facts of the Darwin-Wallace relationship differ to those related on page 180. Actually Hooker and Lyell arranged the simultaneous publication of papers by Darwin and Wallace. There was no question of adjudication because Hooker and Lyell knew that Darwin had been working on evolution for some years, and had been doing careful and laborious research. Wallace's paper was short by comparison and bore the stamp of poetic inspiration. Wallace acknowledged Darwin the master. But no matter, the



historical biographical details at the end of Book 4 are most interesting.

On page 151 a nomenclature correction is credited to having been made by von Mueller in 1910. Mueller died in 1896, and correctly the change was made by Fritz Kranzlin.

The purist may quibble at the book's title since "Family" is used by botanists to embrace all groups below "Order". Thus "The Australasian genera" would be more correct. On page 181 a reference is made regarding Mueller "... among the orchid species he named were *Diuris*, *Cryptostylis*, *Dipodium*, *Caladenis*, and many others". Each of these is a genus not a species. The last three were named by Robert Brown, and *Diuris* by James Smith.

One can forgive such lapses in a book written for horticultural growers by a man who has grown, loved and recorded orchids so well.

The genus *Dendrobium* takes most of the space in the epiphytic section, which is taken to include lithophytic (rupicolous) orchids. Mr Rentoul regards the latter as a midway evolutionary stage between epiphytes and terrestrials.

The Australasian dendrobiums (there is one in New Zealand) are most popular with horticulturists. The author has grown them very successfully over many years and under varying conditions. He has also travelled widely to observe them in natural environments. Thus his observations on relationships, culture and conservation, are very valuable.

The North Australian "interlopers" or migrant plants of apparent Asian origin are of major interest horticulturally. These are also described in detail by Lavarack and Gray in their book which is also reviewed in this issue. The two books, together with Dockrill's *Australian Indigenous Orchids*, give almost a complete coverage of tropical species.

*Sarcochilus* species are among our most fascinating and the price of this book is worth it for this section alone. Fascinating hybridising has taken place within this genus, and with other Sarcanthinae. It has been a difficult field but now many of the

problems are being overcome and the future looks promising.

The chapter on the genus *Bulbophyllum* conveys useful background information which should lead to more interest in the genus.

**Growing Orchids — The Australasian Families** by J.N. Rentoul. Uniform with format of previous books in the series. Published by Lothian Publishing Co Pty Ltd. Recommended retail price: Hardback edition \$22.50, paperback \$16.95. Available in most bookshops and from the Australian Orchid Foundation. Strongly recommended.

## **Sydney Sandstone Flora**

Joan Webb and Tony Edmonds are science lecturers who have co-authored this extremely-useful book. For dwellers in the Sydney sandstone area it is the easiest reference around as a means of making any day in the bush interesting, even exciting.

However, it can be useful to anyone newly interested in botany, due to the simplicity of its chapters on elementary botany. It explains the structure of flowers and their importance as the main item in plant identification. This leads to an easy-to-follow explanation of the use of a botanical key.

There are many explanatory drawings and 32 illustrations in colour, plus a glossary of plant terms and a useful index. Orchids get barely a mention but the book provides a valuable background to their environment as there are approximately eighty orchid species in the area.

The hard cover is an effective protection, together with its pocket size, makes it easy to take along on any bush trip.

Recommended for bushwalkers and for dwellers in the area from Illawarra to the Wattagans and west to Lithgow. An ideal present.

Published by University of NSW Press and distributed by Reed Books. Recommended retail price \$9.95.

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# ONCE IN A LIFETIME



## ORCHIDS AUSTRALIA '86 — HALLEY'S COMET

### THE STORY BEHIND THE LOGO

- Two "once in a lifetime" events will take place during 1986 — ORCHIDS AUSTRALIA '86 and the once-a-lifetime reappearance of HALLEY'S COMET.
- ORCHIDS AUSTRALIA '86 will be the 10th Australian Orchid Conference and will take place in Adelaide, South Australia from September 17 to 24, 1986.
- This conference has already been widely advertised and will be truly international with 18 world-renowned orchid speakers and exhibits and trade stalls from many countries making up the spectacular international orchid show.
- The significance of Halley's Comet visiting our corner of the universe has been taken up by the organising committee of Orchids Australia '86 and they have "adopted" the comet as the "conference mascot".
- Thus the logical orchid to select for the conference logo had to be the spectacular "COMET ORCHID" — *Angraecum sesquipedale*.
- The orchid bloom is mounted in the centre of a large green O — representing "orchids". This in turn forms the lower part of a yellow lower case "a" for Australia. The "tail" of the angraecum is centralised in the "a" which also forms the yellow "tail" of a comet ultimately circling a stylised '86, of course for 1986.
- In this way our logo links these two great events for 1986 and if there is any further inbuilt link required with our conference city, Adelaide, then this is provided by the fact that 1986 represents the 150th birthday of the settlement of South Australia by Europeans.
- Huge celebrations are planned for the entire year which is, of course, our Sesqui-centenary.
- What better orchid to use on such an occasion than *Angraecum sesquipedale*.

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### PAPHIOPEDILUMS — AUSTRALIAN NATIVES SPECIES AND HYBRIDS

Graeme, Lyn and David Banks, proprietors, invite requests for copies of current listings of paphiopedilums and Australian natives. All future listings will then be sent automatically. Having recently acquired mother flasks, seed pods and breeding stock from the "Pathfinder Orchids" collection, we are well placed to provide slipper enthusiasts with high-quality flasks and seedlings — both now and over coming years. These acquisitions complement breeding being undertaken with Australian native dendrobiums, where we are involved in areas such as line breeding of *Dendrobium kingianum* (particularly reds), *Sarcochilus hartmannii* and remakes of early popular hybrids using superior parents.

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*Panalatinga 'Black Velvet'*



*Valley Zenith 'Roundabout'*

## MINIATURE — INTERMEDIATE (Basket — Pot Plant)

	Colour	Expectancy
Beaconfire 'Cecil Park' x Babylon 'Castle Hill' .....	Red	Red
Panalatinga 'Black Velvet' x Bexley 'Radiance Bexley' .....	Red	Red
Panalatinga 'Black Velvet' x Babylon 'Castle Hill' .....	Brown	Brown
Panalatinga 'Black Velvet' x (Doris Aurea x Miretta) 'Chocolate' .....	Brown	Brown
Panalatinga 'Black Velvet' x Valley Zenith 'Roundabout' .....	Polychrome	Polychrome
Osio 'Reynella' x Rotorua 'Magic Circle' .....	Red	Red
Osio 'Reynella' x Sensation 'Melita' .....	Red	Red
Mimi 'Sophia' x Remus 'Schroders' .....	Red-brown	Red-brown
Mimi 'Sophia' x Bexley 'Radiance Bexley' .....	Red	Red
Mimi 'Sophia' x Claude Pepper 'Rajah' .....	Red	Red
Mimi 'Sophia' x South Coast 'Super Petals' .....	Pink	Pink
Mimi 'Sophia' x Babylon 'Castle Hill' .....	Pink	Pink

## INTERMEDIATE SHOWBENCH

Pendragon 'Broadmoor' x Palace Court 'Royal Blush' .....	White
Pendragon 'Broadmoor' x Rotorua 'Magic Circle' .....	Pink-red
Summer Sunset 'Gee' x Kiata 'Nightshade' .....	Orange-red
Summer Sunset 'Gee' x Bexley 'Radiance Bexley' .....	Orange-red

## EARLY INTERMEDIATE

Bold as Brass 'Noami' x Valley Mahogany 'Brownie' .....	Brown
Bold as Brass 'Noami' x Vanguard 'Xmas Beauty' .....	Art

## UNUSUAL COLOURS

Summer Sunset 'Gee' x Remus 'Schroders' .....	Amesbury 'Frank Slattery' x Remus 'Schroders'
Amesbury 'Frank Slattery' x Kiata 'Nightshade'	

## STANDARD SHOWBENCH

Western Rose 'Perfection' x Bexley 'Radiance Bexley' .....	Pink
Western Rose 'Perfection' x (Khyber Pass x Paracel) 4N .....	Red
Valley Zenith 'Roundabout' x Roydon 'Valley High' .....	Green-white
Valley Avant 'Trudy' x (Khyber Pass x Paracel) 4N .....	Pink

## UNUSUAL COLOURS

Valley Avant 'Trudy' x Chocolada 'Kenna' .....	Claude Pepper 'Rajah' x Revelation 'Royal Gem'
Kiata 'Nightshade' x Valley Avant 'Trudy' .....	Valley Avant 'Trudy' x (Doris Aurea x Miretta) 'Chocolate'
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1829/4	PHAL. (DIANA x ZWINGII) No. 1 x ZAUBERROT 'LARKIN VALLEY'	
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WB41	BLC. FORTUNE 'GRAND VIEW', AM/AOS x MEM. DOROTHY BERTSCH 'TOPAZ', AM/AOS — <i>Yellow-plum lip</i> .....	\$4.00
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846/4	SLC. KARRAI STARBRIGHT x C. OKAMI 'RILEYS' — <i>Red and yellow splash</i> .....	\$4.00
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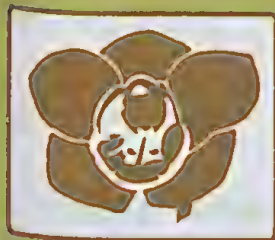
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Expect longer sprays of white blooms with green lip. These plants are vigorous growers and should have an extended flowering season.

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Exhibition-type whites.

### **D. AUTUMN SHOW 'WHITE' x D. ELATED**

A crossing of Phalaenanthus and Latouria sections. Should be more prolific growing and free flowering — whites.

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Yellow to orange background, splashed petals, good shape — very highly recommended for the cattleya connoisseur.

### **BLC. SYLVIA FRY 'SUPREME' x LC. WESTERN SUNSET**

Expect a range of sunset colours, full shape, exhibition type.

### **LC. CLOTHILDE x (C. PRECILLA WARD x C. GUTTATA)**

Numerous flowers in greens to orange with spotting and bars.

*The following Vanda parents are all of exceptional full shape and with the Ascocenda influence the time to first flowering is shorter and they will flower more frequently.*

### **V. VARAVUTH 'BLUE' x (ASCO. BLUEBOY x V. SEEPRAI) 'BLUE'**

Even though there is Ascocenda in the crossing, expect large Vanda-size blooms, dark blue, extra-full shape.

### **(ASCO. BLUEBOY x V. SEEPRAI) 'RUST' x ASCO. PHAIROT**

Expect orange, reds and plum colours — fantastic shape.

### **ASCO. PHAIROT x V. KASEMS DELIGHT**

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Vanda, Cattleya and Dendrobium flasks contain approximately 30 plants — \$30, expect \*\$35. Community pots \$5 extra. Money must accompany order. Please include \$7 for air freight up to six flasks within Australia. New Zealand include \$18. PLEASE ADVISE PHONE NUMBER.

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Winevale 'Fantasy' is an integral part of our breeding programme. It carries up to sixteen flowers on tall spikes in July and multiple spikes with up to three good spikes from each mature bulb. If you are not on our mailing list drop us a line and we will forward a copy of our current flask list post free by return mail.



*Winevale 'Fantasy'*

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 SS. 283 C. ACLANDIAE 'BLACK MAGIC' x SELF — *species spotted.*  
 SS. 461 SLC. NAOMI KERNS x LC. WAIANAE SUNSET — *reds to tangerines.*  
 SS. 816 ONC. LITTLE CHICKADEE x SPRINGFIELD — *pink to maroon equitant.*  
 SS.1051 BC. PASTORAL 'INNOCENCE' x BLC. MEM. HELEN BROWN 'GREEN GIANT' — *greens.*  
 SS.1282 L. ANCEPS 'HILLII' x SELF — *species white with coloured lip.*  
 SS.1448 LC. KINDEE x C. PRINCESS BELLS 'BETTY'S BOUQUET' — *splashed whites.*  
 SS.1487 C. (GENERAL PATON x PRINCESS BELLS 'B.B.') x PRINCESS BELLS 'B.D.' — *whites.*  
 SS.1513 BLC. MALWORTH 'O.G.' x BLC. NORMAN MERKEL — *orange to art shades.*  
 SS.1540 ONC. KUQUAT x SPLENDIDUM — *tall spikes, bright yellow skirter.*  
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 SS.1756 C. KITTYWAKE '8' x BLC. JANE HELTON 'LINES' — *yellow/coloured lip.*  
 SS.1760 BLC. MALWORTH 'O.G.' x BLC. JANE HELTON 'LINES' — *showbench yellows.*  
 SS.1764 C. AVE MARIA 'ANGELICA' x C. BOB BETTS 'MAGNIFICA' — *whites.*  
 SS.1770 C. FASCELIS x C. PENNY KURODA 'SPOTS' — *splashes and spots for December.*  
 SS.1774 LC. WASHINGTON POST 'S.S.' x BLC. NORMAN'S BAY 'LUCILLE' — *large red-lavenders.*  
 SS.1776 C. BICOLOR GREEN MAGIC 'KEYSTONE' x SELF — *superior bicolor species.*  
 SS.1784 L. PURPURATA x SELF — *a fine semi-alba form of this species.*  
 SS.1871 LC. CADMIUM LIGHT 'G.E.' x BLC. WAIKIKI GOLD 'UNO' — *greens and yellows.*  
 SS.1906 BLC. RANGER SIX x BC. LANGUEDOC 'S.W.' — *large, heavy substance pastels.*  
 SS.1913 BC. MT. HOOD 'S.S.' x BC. MT. ANDERSON — *large pinks for showbench.*  
 SS.1918 DEN. CANDY STRIPES x DOREEN 'KAMIYA' — *striped whites.*  
 SS.1919 DEN. HUGH FISHER 'S.S.' x AUTUMN SHOW 'GIANT' — *large bicolors.*  
 SS.1925 DEN. ANOCHA x DISCOLOR 'BROOMFIELDII' — *long sprays, yellows.*  
 SS.1948 SLC. MADGE FORDYCE 'R.O.' x SLC. NAOMI KERNS 'O.G.' — *deep reds.*  
 SS.1950 BLC. NACOUCHEE 'FANTASIA' x BC. MT. ANDERSON — *large pinks.*  
 SS.1951 DEN. GOLDEN BLOSSOM 'SUNSET' x 'LEMON HEART' — *yellow to orange softcanes.*  
 SS.1952 BLC. MALWORTH 'O.G.' x BLC. RUBEN'S VERDE — *large greens and yellows.*  
 SS.1984 (DTPS. LADY JEWEL x PHAL. IRENE SAMIENTO) x PHAL. HIMESHIRAYUKI — *pinks.*  
 SS.1985 PHAL. (WINTER MAIDEN x JOSEPH HAMPTON) x MARIPOSANG 'PUTI' — *whites.*  
 SS.1986 DTPS. ODORIKO 'NISHI IZU' x PHAL. ACE — *white/coloured lip.*  
 SS.1987 PHAL. MUSASHINO x (HAMAOKA x MARIPOSANG 'PUTI') — *whites.*  
 SS.1988 PHAL. (MT. KAALA x JOSEPH HAMPTON) x HIMESHIRAYUKI 'S.B.' — *whites.*  
 SS.1989 PHAL. GLADYS READ 'S.Q.' x JOSEPH HAMPTON 'S.W.' — *whites.*

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N.B.: Many of the above-listed parents have variety names and/or awards but are not shown due to lack of space.

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Lovely early green, pale cream lip — up to 40 flowers on upright spike.

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TOP quality, very light pastel pink — beautiful shape, 15-16 blooms on upright spike.

**KING ARTHUR Var. YELLOW SUPER** — Many early, well-shaped flowers on tall, upright spike.

**PASTORAL LADY FIRST STAR (EARLY BIRD x LANCELOT)**

Beautiful, well-shaped, crystal white bloom, red-spotted lip — good parent.

**RANCHERRY No.'s 1 AND 3**

Very early, very good shaped, heavy-textured red blooms, heavy-textured spotted lip, slight variations to lip of No. 3.

**SHOWGIRL HUSKY HONEY** — Many white blooms on tall, erect, multiple spikes.

**STANLEY FOURAKER x PEARL BEL**

Mid-season white dwarf growing standard, sparsely-spotted red lip — perfect shaped 3" bloom.

**TACHIBANA** — Many good, early, yellow blooms on upright spike.

**WALU LUNAGRAD Var. GRACIOUS** — Well shaped, April/May, light green, red lip — upright spike.

**XMAS GREEN x LUNAGRAD** — Many early, yellow-green flowers on upright spikes.

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**AKIBI KAGAYAKI** — Very early, yellow, solid bloom, very solid texture — 18 blooms on spike.

**GARETH x FIREWHEEL** — Late, well-shaped, green bloom, red-spotted lip.

**GAWAIN HANE (HONEY)**

Upwards of 30 lolly-pink, August blooms on upright spike, excellent commercial.

**HIROSHIMA SWEET EYES** — Lovely mid-season pastel pink.

**INASA (LANCELOT x SENSATION)** — Very early pink on tall, upright spikes.

**JACK FROST MIYOYO, JACK FROST SUIsie, JACK FROST No. 7, JACK FROST GINGA**

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**KIMPO** — Beautiful-shaped yellow with red lip, very tall, upright spike.

**MIRESSA** — Well-shaped, early, yellow-green blooms on upright spike.

**OHKUBO OKI** — Early green, red lip.

**ORIENTAL LEGEND CHANEL No. 5** — Many mid-season, dark pink blooms on upright spike.

**SUNNY MOON WINTER STAR** — Good August yellow, red lip — multi-spiking, dwarf standard.

**WAKAKUSA x SENSATION** — Over 20 early red blooms on upright spike.

**WALU CONCOLOUR LIP** — Very early, excellent-shaped, light green-yellow lip.

**WALU TAKAI No. 1** — Early green, red lip — upright spike.

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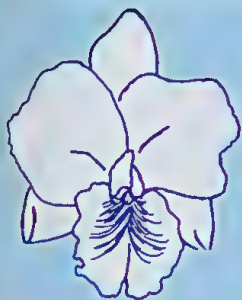
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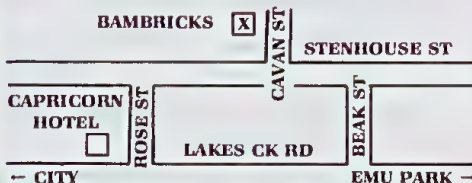
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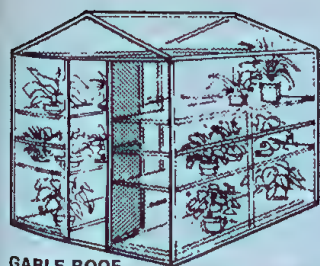
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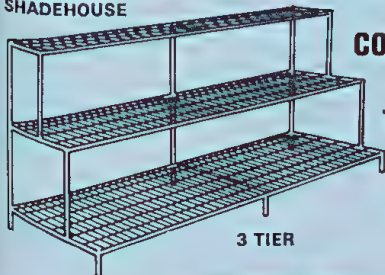
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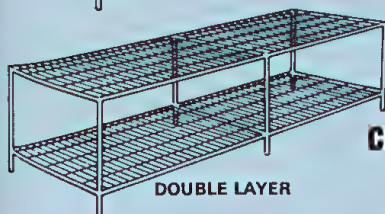
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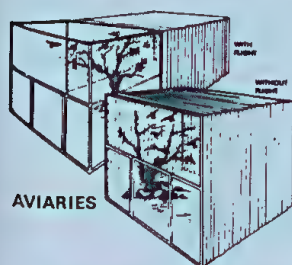
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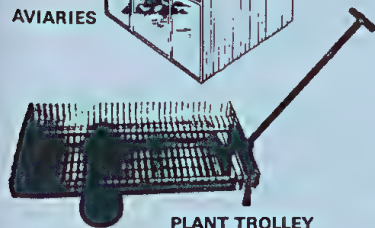
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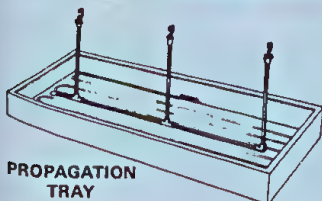
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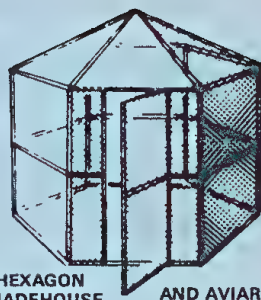
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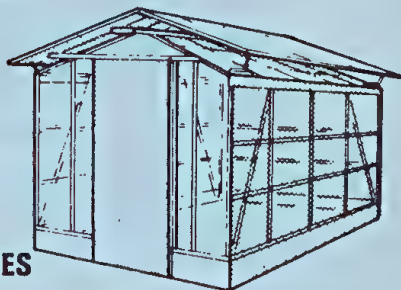
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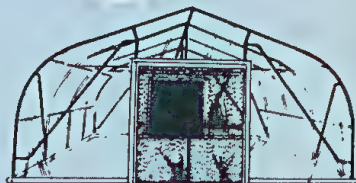
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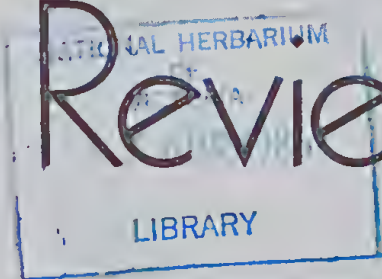




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# Australian Orchid Review



AUTUMN 1986



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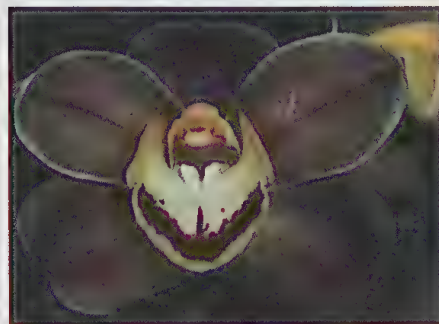
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NSW 2049. Phone: (02) 560 6166.

**Advertising and Subscriptions to Michael Santer, Publications Manager:**  
14 McGill Street, Lewisham, NSW 2049. Phone: (02) 560 6166.

**SUBSCRIPTIONS:** 1986/1987 within Australia \$A37.00, 1986 \$A20.00.

Overseas surface: 1986/1987 \$US37.00, 1986 \$US20.00.

Overseas Air Mail: Asia/Oceania 1986/1987 \$US46.00, 1986 \$US25.00.

Other Countries: 1986/1987 \$US54.00, 1986 \$US30.00.

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Published by

**PRINTCRAFT PRESS PTY LTD**  
14 McGill Street, Lewisham 2049. 560 6166

Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA 27936  
The publishers of the *Australian Orchid Review* financially support  
the Australian Orchid Council.

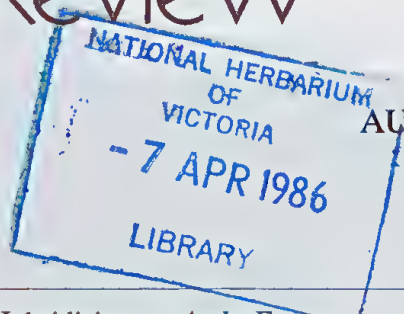
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# Australian Orchid Review

VOLUME 51 — No. 1

AUTUMN 1986



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## COVER STORY

C. Peter Pilot Iceberg: Andy Easton looks at New Horizons in *Cymbidium* Hybridising and asks the question — where to go in future breeding with cymbidiums? For the full story, turn to page 8.

To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in italics. In society bulletins and on place-cards italics can be indicated by underlining.



# New Horizons in *Cymbidium* Hybridising

ANDY EASTON



*C. Peter Pan 'Greensleeves' 4N*  
(*Miretta* x *ensifolium*)

Where to go in future breeding with cymbidiums? There are new species to be tried and new uses for established species to be explored. In fact many new strains are being developed right now and you as potential buyers of these new trends will wish to know what to expect when it comes to paying for new seedlings.

Let us look at some of these possibilities.

*Cymbidium aloifolium*. This species has gained a probably undeserved reputation. An early hybrid, *C. Patricia Ann*, was quite bulky and shy blooming. The recent hybrid, *C. Gordon Gibbs*, has produced some black-red flowers with the clone 'Dashing' regularly blooming every six months. *C. High Gordon* (x *C. parishii*) is producing unusual spotted and tiger-striped flowers on compact plants.

*C. erythrostylum*. In itself this is one of the most miniature foliated species. The hybrid *C. Cherry Blossom* (x *C. pumilum*)

is a delightful pot plant. Earliness and freedom of bloom are additional pluses influenced by this species.

*C. eburneum*. The species has a rather smallish pseudobulb which matures over two or three seasons but with the advantage of a large flower. A recent hybrid *C. Tussock* (x *C. parishii*) is producing delightful scented seedlings that bloom on their first bulb. Flower size does not exceed 75 mm in diameter.

*C. pumilum*. Hybrids like *C. Penguin* (x *C. madidum*) and *Scallywag* (x *C. suave*) show the novelty uses of *C. pumilum*. All hybrids of this species with diploids should be colchicine treated to produce fully-fertile offspring. It should now be crossed with *C. grandiflorum* to see whether the hybrid will have significant cold tolerance.

*C. ensifolium*. Perhaps the best hybrid from this species has already been made: *Peter Pan*. Nonetheless it should be crossed



*C. Scallywag* 'Featherhill'  
(*pumilum* x *suave*)

with *C. parishii*, *C. madidum* and *C. tigrinum*, and the flasks colchicine treated.

*C. devonianum*. The best hybrids are still to be made with this species. *C. Devon Parish* proved a real charmer, spotted and truly miniature. Crossing it with *C. tracyanum*, *C. canaliculatum* and *C. aloifolium* and inducing higher ploidy with colchicine is exciting to anticipate.

*C. parishii* 'Sanderæ'. This is another species that has been held back by restricted availability until now. It must be crossed with all the Australian native cymbidium species as soon as possible because it imparts a warmth tolerance which could expand the growing range of its hybrids right into the Northern Territory.

*C. tracyanum*. Probably not a species to offer much to new lines except that its exotic character and scent are always exciting. Crosses with *C. devonianum* and *C. sinense* are in the pipeline.

*C. grandiflorum*. Another misunderstood species. I have it crossed with *C. parishii*, Keith Andrew has it with *C. devonianum*,

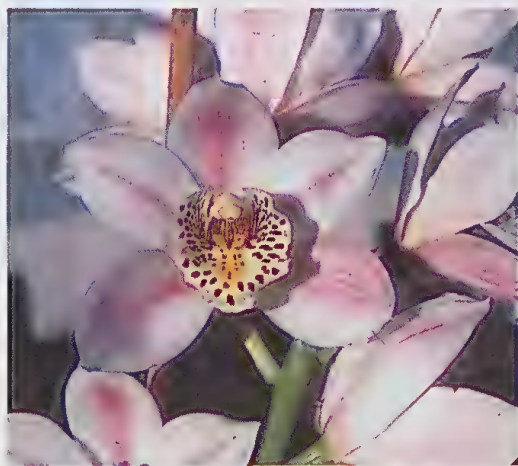
and someone must cross it with *C. pumilum* var. *album* and colchicine treat the seedlings.

*C. sinense*. That superbly-scented *C. Sweet Spring* cross (x *C. Alexanderi* 'Album') has bred on with *C. devonianum* to produce great miniatures, clean coloured and scented, and with dramatic black lips. The species has much to offer besides perfume. We have bloomed crosses between this species and *C. Peter Piper* this season that are miniature charmers.

*C. lowianum*. A species which must be crossed with *C. ensifolium* and *C. sinense* as soon as possible. We have put it with *C. madidum*. The latter will be thumping great plants but probably very useful for Christmas-blooming decoratives.

*C. tigrinum*. Through *C. Tidbit* 'Puckish', HCC/AOS we have seen an example of the variation in *C. tigrinum* progeny. *C. Tidbit* x *C. Jill* and *C. Tidbit* x *C. Mighty Mouse* have been most unusually coloured. The miniature habit and stark white lip from *C. tigrinum* deserve much greater attention from hybridisers.

*C. mastersii*. A real miniature pot plant charmer. We have crossed it with *C. erythrostylum*. All plants have bloomed on their first growth. We have five year-old plants in May 1985 which bloomed with as many as six spikes while the plants were still in 10 cm pots. The flowers were clean pastel colours.



*C. Rod Stewart* 'Cheeky'  
(*parishii* x Fred Stewart)



# New Horizons in *Cymbidium* Hybridising

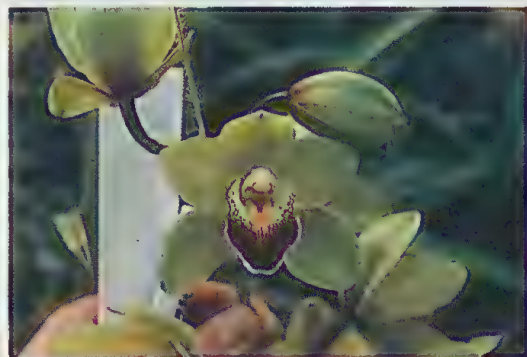


Cym. Gordon Gibbs 'Tropic Night', AD/CSA  
(*C. aloifolium* x Cabernet)

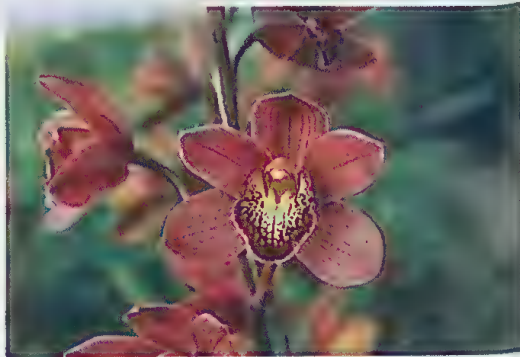
*C. madidum*, *C. canaliculatum* and *C. suave*. If we can consider the Aussie gang of three I must chide you all for neglecting three very exciting parental species. It was Mrs Menninger, an American, who made the cross *C. Kuranda* (*C. suave* x *C. madidum*). I know of no other cymbidium

which will carry 950 flowers in an 18 cm pot and bloom as late as Christmas. This cross must be colchicine converted as soon as possible.

I saw a sensational new hybrid bloom in November 1985: *C. Flame Hawk* 'Nipper' x *C. madidum* 'Burnham'. If you can



Maureen Grapes 4N



*C. Red Beauty* x *C. Peter Pan* 4N

## New Horizons in *Cymbidium* Hybridising



*C. Peter Piper* 'Bittersweet' x  
*Voodoo* 'Gypsy Red'

believe me some of these are even blooming on their first bulb less than two years from flask. One seedling is a black-red with two arching spikes of nine and eleven blooms in a 12 cm pot, flower size 5 cm across. This is the best late-blooming miniature we have ever produced.

Consider crossing *C. canaliculatum* var. *sparkesii* with *C. Peter Pan* 4N, *C. madidum* with *C. parishii*, and *C. suave* with *C. Peter Pan* 4N just to begin visualising what the thoughtful Australian hybridiser could be working towards.

*PO Box 162, Rotorua, New Zealand*



*C. Flame Hawk* x *C. madidum*



*C. Gladys Whitesell* 'Charmer'  
(*Fifi* x *parishii* 'Emma Menninger') 4N



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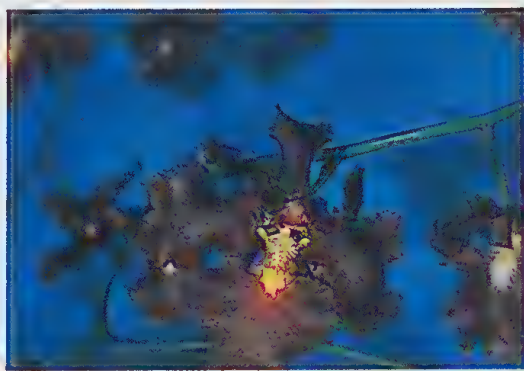
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PETER TAYLOR



*O. enderianum*  
From Brazil.



*Onc. crispum* var. *grandiflorum*  
'Everglades', AM/AOS

## *Oncidium*

TRIBE — Vandae  
SUBTRIBE — Oncidiiane

**History and distribution.** For many years, orchid collections in Sydney have usually contained a few *Oncidium* species and the occasional hybrid yet, these charming and sometimes extravagant plants have most often been looked upon as "fillers-in" — orchids that provide a predictable splash of yellow and brown flowers in the autumn and spring but plants that have to put up with whatever conditions prevail in the glasshouse or shadehouse. Even a recent author maintains that "... *Oncidiums* ... must be selected to suit the various orchids comprising the generic collections into which growers who wish to introduce them" (Rentoul, 1982, page 190). In other words, develop your other orchids first and then consider suitable *Oncidium* plants to fit in with others!

I wonder why this attitude prevailed (and perhaps still prevails)? *Oncidium* species have a noble history, remarkable diversity in plant and flower form, startling variation in flower colour (in spite of diehard attitudes that *Oncidium* flowers are all brown and yellow) and most species, with a little understanding can be grown in a single glasshouse or shadehouse. Perhaps the hybridists are at fault — in their relentless drive to create an *Oncidium* — "should be symmetrical and in the form of a well-filled

circle (with) ... all segments in the same plane and free from hooding ... or other distortions" (Australian Orchid Council. Judges Handbook page 30), they have overused *Oncidium* species from the varicosum and crispum sections which always breed yellow/brown combinations. Other species have been virtually ignored as their flowers, often of beautiful colour other than yellow or brown, were either "too small" or "insignificant" or, with that singular viewpoint of the hybridist and judge were "of inferior shape".

The purpose then, of this paper, is to discuss some of the remarkable *Oncidium* species provided by nature in a diverse variety of habitats and some indication as to their needs in cultivation.

First, however, a little of the history of the genus. William Cavendish, son of the fifth duke of Devonshire, was born in 1790. He proved intelligent, extravagant and of fine literary taste. Unfortunately, chronic deafness caused loneliness and the "Bachelor Duke" gradually became interested in horticulture and he met Joseph Paxton. He employed Paxton as head gardener and his interest in rare plants flourished. So, to his connection with *Oncidium* species. At a Royal Horticultural Society exhibition in 1833, Cavendish noticed *Psychopsis papilio* (*Oncidium papilio*). This remarkable orchid had been introduced into cultivation in 1824 from Trinidad. Cavendish was de-



lighted with the character of this orchid, purchased it and began forming what was perhaps the first collection of orchids in England. Perhaps it was an *oncidium* that started the orchid craze!

Linnaeus considered *Oncidium* as a member of the genus *Epidendrum*. In 1800, the Swedish taxonomist, Swartz separated the two and established the genus *Oncidium*. The name is derived from the Greek word *onkos* (pad or mass) and refers to the warty appearance on the lip of many species. The genus is very large and contains over three hundred valid species. An immediate problem can be seen when reading a generalised description of the plants in a recent publication — "Small to very large epiphytic, lithophytic or terrestrial plants with short to long rhizomes. Pseudobulbs very small to large . . . leaves equitant, flat or terete, membranaceous to fleshy-coriaceous" (Bechtel, Cribb, Launert: 1981:327). That is, the plants can vary remarkably in size and form and, although the genus is "bound together" by floral characteristics, there has been continuing controversy over the sectional limits in the genus and also over particular species "crossing" the boundary between *Oncidium*, *Miltonia* and *Odontoglossum*. The work of Garay and Stacy (Bradea, 1974) is one of the most recent evaluations of the genus but I note with interest the ire the work aroused in the doyen of *Oncidiinae* researchers, the late W.W.G. Moir.

*Oncidium* is a New World genus, confined to the Caribbean, Meso and South America, but on that vast land mass, it is extremely diversified in habitat. Some occur only in the sweltering river valleys or in proximity to the coast (e.g. *Oncidium lanceanum*). Others, notably the beautiful *Oncidium phalaenopsis*, occur at high altitudes from 2,500 metres in Southern Ecuador and Colombia. Many species in the *varicosum* and *crispum* sections of the genus are located in Brazil, especially on the Organ Mountains and in the provinces of Rio de Janeiro, Minas Gerais and Sao Paulo. Some careful analysis needs to be made of the exact habitat of a particular species when considering the creation of a desirable

environment to grow it in. It is useless to consider all Colombian *Oncidium* species as "cool" growers if in nature they grow in the low Amazonian area of Colombia; conversely, a Venezuelan species considered a "warm" grower may have originated from cloud forests in the mountains! Rentoul maintains that "possibly the most outstanding characteristic of the genus as a whole is the aridity [my emphasis] of their dormant or resting period, some species growing in areas where there is little rainfall for up to six months of the year" (Rentoul; 1982:190).



This "blanket" statement could cause novice *Oncidium* growers who know they have a Mexican species like *Oncidium tigrinum* or *Oncidium hastatum* to attempt to keep them bone dry all winter! In nature, these species, like some of the Brazilian *Laelia*



*Oncidium cucullatum* Lindley  
A species from Ecuador.

and *Sophranitis* species do experience long periods of no rain but, and this is a crucial factor, heavy dews provide necessary moisture which avoids disastrous desiccation of the plants. Hence, very light, occasional misting of such species is necessary even during the cooler dormant period. Again many Venezuelan, Colombian and Ecuadorian *Oncidium* species do not experience an arid dormant period.

The accompanying map gives a brief indication of the distribution of some (actually, very few!) of the most delightful members of the genus. Some knowledge is needed not only of the country of origin of particular species but also of the often subtle variations of elevation, rainfall, accompanying vegetation, presence of a sheltering canopy of trees, etc. It would be unfortunate to simply know that a particular species came from Colombia. Even knowledge that it came from say, a latitude of 5° north of the equator which may indicate a warm-growing species is insufficient. At this latitude, the species may originate from either cloud forests high in the mountains near Bogota, or, steamy Amazonian jungles 400 kilometres to the east! Much of this necessary information is provided in excellent products like the *Orchid Digest*. Having stated this, I do not mean to alarm growers who would like to try a few *Oncidium* species! I grow approximately 50 *Oncidium* plants, successfully, I think by making effective use of microclimates in my glasshouse and open shade area. Some analysis of generalised cultural procedures might now be appropriate.

### General cultural hints

**Light.** In general, bright (but not hot) light is essential if *Oncidium* species are to flower well. They will grow in shade but flowers will be sparse. If a species is not flowering for you, move it to a brighter position.

**Water.** Frequency and intensity of watering depends on a variety of factors including choice of pot or slab culture, type of media chosen for the pot, plastic or clay pot, humidity levels in the growing area etc. However, *Oncidium* species generally prefer to go from a wet to dry cycle. The time span of the cycle depends on the above factors. I have found that, in my conditions, most plants grow better on cork slabs (not the processed, pressed type). This allows heavy watering, roots can be naturally exposed to atmospheric humidity and plants can approach growth patterns experienced in nature without being artificially confined to a pot!

**Environment.** On a recent hot dry Saturday, the temperature at the ridge of my glasshouse reached 49°C (110°F), close to the floor, near the benches, the temperature was a very humid 27°C (80°F)! Obviously, a variety of microclimates are available to suit a variety of species. I feel that air movement is essential and fans in glasshouses are a necessary luxury to avoid stagnant air — particularly in winter.

Writers often mention a “buoyant” atmosphere. To me, this means a glasshouse or shadehouse that smells fresh, crisp and breezy. So, I try to keep my floor area constantly wet, mist plants quite often and have oscillating fans, moving the air mass quite considerably.

**Nutrition.** For some years I have been searching for the ideal orchid food. I didn't find it, but Bill Johnson did! In the *Australian Orchid Review* (September 1984) he carefully itemised a program that I now religiously use and I have never had better plant and root growth. But beware! This program works for me with my particular conditions. You may need to experiment!

**Pots, Media or Slabs?** The method chosen to secure the plant must blend with the surrounding environment. Perfect drainage is essential. For that reason, I generally prefer cork slabs, but some species, for



# DISTRIBUTION OF SOME POPULAR *ONCIDIUM* SPECIES IN MESO AND SOUTH AMERICA



intangible reasons seem to prefer pots. For example, *Oncidium microchilum* and *Oncidium splendidum* both grow and flower better for me in clay pots in a bark/charcoal medium. Conversely, the delightful miniature *Oncidium edwallii* from Brazil prefers cork slabs. However, you may well need to experiment a little more here.

**Watch Your Plants!** I am sometimes surprised when visiting orchid collections to have experienced growers grizzle about a particular plant which "is not doing well". Often it's fairly obvious that if the plant was moved to a more humid, or brighter, or warmer position in the glasshouse (or perhaps out into a breezy shadehouse) then justice would be done to a living organism struggling to do its best to survive and flower. So, be observant and don't be the type who places plants in the glasshouse and there they stay, never moved, quietly suffering undesirable conditions.

The selection of relatively few species can enable you to always, from season to season, have *Oncidium* flowers in your glasshouse or shadehouse. Therefore, a description of some of the species on a seasonal flowering basis might be a reasonable guide to those who would like to start, or further develop, their *Oncidium* collection.

### Springtime

*Oncidium edwallii*. A charming miniature species from Brazil. The yellow and tan flowers are beautifully proportioned and symmetrical. It prefers to grow on cork. One of my favourite *Oncidium* species.

*Oncidium ampliatus*. This arrestingly beautiful species is distributed through Guatemala, Panama, Colombia, Ecuador and Venezuela but always grows in warm, low-elevation areas. It was first discovered in 1831 in Costa Rica. Inflorescences are branched and the glowing yellow flowers, on a mature plant, are breathtaking. I find this species one of the most difficult to grow well.

*Oncidium cavendishianum*. One of the "mule-eared" species from Mexico, Honduras and Guatemala. First collected by George Ure-Skinner in Guatemala and named after the Duke of Devonshire mentioned previously. This species likes warm, wet summers and a cooler, drier spell in winter. Full sunshine is needed in winter. Its flowers are very showy, with yellow-green sepals and petals spotted with reddish marks.

*Oncidium phalaenopsis*. Correctly, *Oncidium nubigenum* subsp. *phalaenopsis*. A miniature species from Southern Ecuador. Difficult to grow but worth the effort. Needs cool, moist, airy conditions. The flowers have purple-spotted sepals and petals. The lip is white. In Ecuador these plants grow at altitudes up to 3,000 metres!

*Oncidium macranthum* (syn. *Cyrtorchilum macranthum*). The king of the genus! The plants are large and the flowers are majestic. It comes from Ecuador and Colombia in cloud-forest habitats and requires cool conditions with good light and moisture. It has the largest flowers of the genus. Petals are golden-yellow and sepals yellow-brown. The lip is often spectacularly marked with purple.



*O. macranthum* Lindley  
From Colombia, Peru, Ecuador.

### A Selection of Species

Initially, I thought I would describe my favourite *Oncidium* species. However, a choice was impossible as they all have charm, from the miniature equitant species from the Caribbean to the majestic members of the *Cyrtorchilum* section of the genus from Ecuador like *Oncidium macranthum* and *Oncidium superbiens*. Also the number of species described is limited by the length of this article. So, a compromise was necessary.



*Oncidium sarcodes*. Discovered in 1849 near Nova Friburgo, Brazil. The specific epithet refers to the red-brown (flesh-like) colour of the sepals and petals of this easily-grown, very attractive species. It prefers a little winter warmth (approximately 12°C (54°F)). The flowers are of heavy substance and last well.

*Oncidium calochilum*. Northen describes this as a "unique little plant" with "toothpick-like leaves" and "spectacular flowers" (Northen: 1980:123). It has green sepals and petals and a beautiful fringed lip. It is principally distributed on the Cayman Islands in the Caribbean and does not respond well to cool winters!

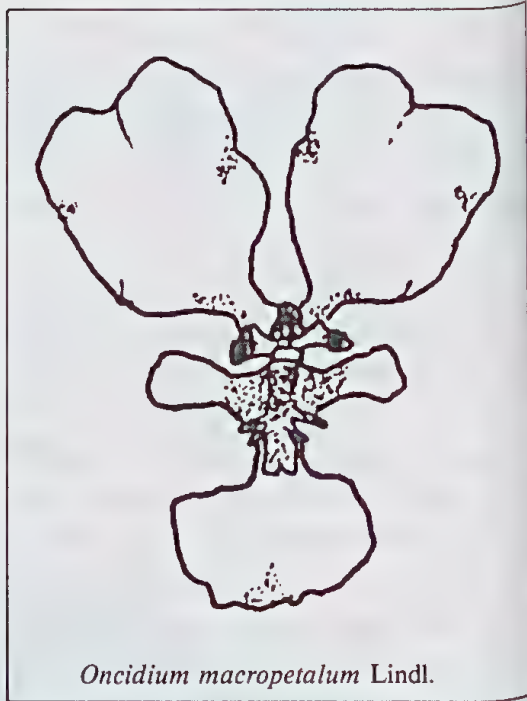
*Oncidium cebolleta*. Perhaps the most widespread of all *Oncidium* species. From relatively-hot areas of the American tropics, this is one of the terete-leaved or "rat-tail" species which requires only the occasional light mist in winter. A glasshouse species! Its flowers are small but many. Sepals and petals are greenish-yellow with red markings and the lip is bright yellow. The plant is a remarkable contrast to the previously-mentioned species.

*Oncidium crispum*. This striking species was first described in 1832. At that time botanists did not realise that Brazil produced two *Oncidium* species with very similar flowers: the spring-flowering *Oncidium crispum* with large flowers up to 60 mm across, and the smaller autumn-flowering *Oncidium enderianum*. The former was incorrectly labelled and sold as *Oncidium crispum* 'Grandiflorum' the latter as *Oncidium crispum*. They are different in distribution, flowering time, callus and column wings.

*Oncidium crispum* thrives in shadehouse conditions but must be grown on a long piece of cork as the roots extend prolifically after flowering in November/December and do not enjoy being confined to a pot! Incidentally, the flowers have sepals and petals of deep chestnut-brown and a bright yellow area at the base of the lip. They have a beautiful burnished sheen.

### Summertime

*Oncidium ansiferum*. A remarkable oncidium. The flowers are quite pedestrian, of "typical yellow/brown" colour com-

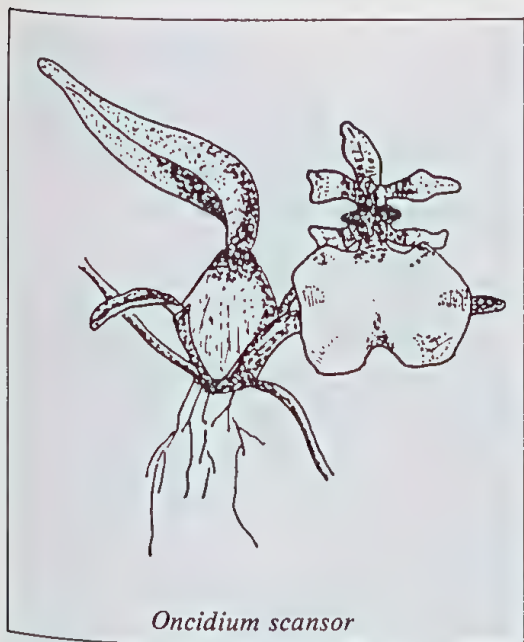


*Oncidium macropetalum* Lindl.

binations but, the plant itself is worth glasshouse space. The "talking-point" is the pseudo-bulbs. They are sub-orbicular and compressed to the point of having a virtual knife-edge! It comes from warm moist areas of Costa Rica, Guatemala and Panama and, although discovered in the 1840's is not often found in collections.

*Oncidium scansor*. Long known as *Oncidium globuliferum*. This is a fascinating "climbing" *Oncidium* which has the reputation of being very difficult to flower although I think this only applies to certain clones. Botanists are having a wonderful time trying to decide whether the rhizome is actually an inflorescence and the pseudobulbs are "keikis" formed at the same nodes as the flowers perhaps because of certain factors causing growth hormones rather than flowering hormones to be released. *Oncidium scansor* cannot be grown in a pot and prefers to stay on its host plant. It grows primarily in Costa Rica and Venezuela and has large beautiful yellow flowers.

*Oncidium lanceanum*. First cultivated in 1838 by a Mr John Lance. Another of the "mule-eared" *Oncidium* species and a noble plant. The flowers are very showy with sepals and petals heavily spotted red-purple and a violet-purple lip. It grows equally well in a pot or on a cork slab and

*Oncidium scansor*

needs good light and warmth in winter to produce its large-flowered inflorescence in the summer. A glasshouse orchid.

*Oncidium concolor*. Another of my favourites! This beautiful Brazilian species produces flowers larger than its pseudobulbs. Sepals and petals are narrow, totally overwhelmed by the large lemon-yellow lip. I'm convinced it's happier on cork but I've seen nice plants grown in pots.

A drier winter spell of minimum 11°C (52°F) is needed. Copious water in the summer is also necessary.

*Oncidium microchilum*. A large majestic plant discovered in 1838 by Skinner in Guatemala. It seems restricted to that country and virtually grows as a lithophyte. My plant enjoys a clay pot and a bark/blue metal mixture! It has rigid leathery leaves and a branched inflorescence with small but beautifully-proportioned brown flowers. It prefers a warm, bright spot in the glasshouse.

### Autumn

The flowering time of many species as the flowering hormones are released with the decreased hours of sunlight of the shortening days.

*Oncidium forbesii*. This species makes up growth and its pseudobulbs in the spring and then rests before the flower scape appears in the late summer to flower in the

autumn. First flowered by Mr Forbes, it has arrestingly-beautiful flowers of glossy chocolate-brown with gold flecks on the petal, sepal and lip margins. Fowlie mentions that "in my experiences . . . it always grows in foggy forests of the leeward slopes (of the Serra da Mantiqueira, Brazil) at 900 metres to 1,200 metres (3,000 feet - 4,000 feet) elevation and does not enjoy dry zones. It has no close allies and is immediately recognised by its single-leaved pseudobulb". (Fowlie: 1976:50).

I grow this species better in my glasshouse because of its more constant need for humidity.

*Oncidium ornithorhynchum*. A lovely species with gentle pink flowers which requires moderate watering all year (hence, perfect drainage). Discovered by Humboldt in mountainous regions of Mexico. It is a cool grower but I find, perhaps because of its need for humidity, that it grows better in a glasshouse.

*Oncidium cheiroporum*. Found from Nicaragua to Colombia. In Colombia, where my plant comes from, it grows in the lower montane regions in wet forests. It has small oval pseudobulbs about 3.5 cm high and a single leaf. The flowers are rather curiously formed with strongly-reflexed sepals and petals. Their colour is a rich golden-yellow and the plant has an arching many-flowered inflorescence. This one grows better for me in a black plastic pot with many extra drainage holes put through with a soldering iron. An open mixture allows heavy watering without the medium becoming sodden with resultant loss of roots.

*Oncidium onustum*. A charming little plant. It has small, hard, round pseudobulbs flecked with purple — a clear indication of its need for high light conditions. It must be grown on cork and likes to be completely dry by sunset — it appears to prefer light misting rather than heavy watering. I have three plants of this species — all grow like weeds for me but I cannot flower them! A pity, because the yellow flowers are a clear yellow and very beautiful.

*Oncidium tigrinum*. A Mexican species, first cultivated in Europe in 1839. I feel that every collection of *Oncidium* species should include this one. The plant is "a large free-



flowering epiphytic plant". (Cribb: 1981:342). The flowers have striking colour: sepals and petals bright yellow with predominantly brown blotches, lip a clear yellow. Also, it has a wonderful perfume reminiscent of roses. As it grows as an epiphyte on oak trees at 2,000-2,500 metres altitude I can see no reason to try to confine it to a pot. My plants delight in being grown on cork. It must have a drier rest in winter but, mist occasionally to avoid pseudobulbs becoming desiccated.

*Oncidium triquetrum*. A wonderful member of the variegata group (which many authorities consider a separate genus).



Moir describes this species better than I can — "the best of these plants come from Westmoreland in Western Jamaica . . . the plant is not as erect as the other Jamaican species and with more anthocyanin. The penduncle is very short and branched . . . the flower varies greatly in colour from all tan to all red . . . the best flowers occur in the fall months". (Moir: 1980:26). As to culture, he goes on to say "Aeration of roots, even more than good light, is the most important single factor in raising these epiphytic plants . . . they should not be overpotted". (Moir: 1980:41).

Note: A number of mericlones of *Oncidium pulchellum* 'Skippy' are being grown at the moment in Australia. The flowers are large (the plant is, of course, of the variegata group of *Oncidium* species) and a deep rose-purple. However, Moir mentions that "the flowers are pale pink . . . the purple and rose forms are not pure *Oncidium*

*pulchellum* but are hybrids of *Oncidium concavum* and varying amounts of *Oncidium pulchellum*!" (Moir: 1980:22).

*Oncidium varicosum*. This is perhaps the best known of all *Oncidium* species and its beautiful yellow lip and habit of inflorescence gave rise to the popular name of "dancing ladies"! It has been used in hybridising (overused to my mind!) more than any other *Oncidium* because of the dominance of its lip. However, to the hybridists' arbitrary and inflexible code of "excellence" determined by judging standards, its petals and sepals are "poor". Hence its introduction to *Oncidium crispum*! *Oncidium varicosum* does not seem to need a winter rest and is always in growth. Be careful not to over-water in winter!

### Winter

*Oncidium splendidum* — from Guatemala and Honduras and first described in 1862. A robust plant with oblong-elliptic leaves, very fleshy. It has a many-flowered inflorescence with large, showy flowers. This plant enjoys full winter sun when dormant and approximately two months rest with reduced watering after blooming. When in growth, pour the water on!

*Oncidium macropetalum*. The flowers of this charming little species clearly indicate the extreme variation within the genus *Oncidium*. The flowers are bright yellow and very attractive. The "talking point" however is the petals. They are tall and flag-like and are a remarkable reminder of how a species can become adapted, via natural selection and positive mutation, to its environment. This *Oncidium* comes from Brazil and Bolivia.

*Oncidium papilio*. The species said to have started the terminally-addictive disease orchiditis! Actually, under modern nomenclature rules, the name is illegitimate and should be *Psychopsis papilio* but I do not propose to list the lengthy reasons why here, but rather direct the reader's attention to the article by Dunsterville in the *American Orchid Society Bulletin* Volume 51 No. 9 September 1982. Also see a beautifully-illustrated article by the late George Kennedy (*Orchid Digest*, July-August 1977). Whatever the name, this is a startling species.



*Oncidium  
onustum*  
'Mary Kate'  
AM/AOC-QOS



It is possible therefore to have *Oncidium* flowers available to delight and enchant you all the year by using a relatively few examples of the genus. I have grown and flowered all of the species in this article — sure, some are tougher to grow and flower than others but then, that is part of the allure in growing species orchids.

45 Peel Road, Baulkham Hills 2153

Grown by Milton Carpenter. Photographed by Milton Carpenter and Peter Taylor.



*O. ornithorhynchum* H.B.K.  
From Central America.

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EL CAPITAL 'ROBERT CHRISMAN'	2 FS	\$30 EACH	SIRAM 'MAXINE' (4N)	1 FS	\$50
ETTA BARLOW 'DOS PUEBLOS'	1 FS	\$30	SLEEPING BEAUTY 'SOUTHERN CROSS' (4N)	1 FS	\$30
FAIRY WAND 'RUBY WINE'	2 FS	\$30 EACH	SLEEPING GIANT 'LATE SEPTEMBER'	1 FS	\$100
FAIRY WAND 'RUBY WINE'	4 FS	\$30 EACH	TERAMA 'YOWIE BAY'	1 B&L	\$30
FORTY NINER 'ALICE ANDERSON'	2 FS	\$40	VALLEY CONQUEST 'GOLDEN MASTERPIECE'	3 FS	\$30 EACH
GURRANA 'PHYLLIS'	2 FS	\$30	VALLEY CONQUEST 'GOLDEN MASTERPIECE'	3 FS	\$30 EACH
GURRANA 'PHYLLIS'	1 B&L	\$20	VALLEY KNIGHT 'PATRICIA ANN'	1 B&L	\$30
HIGHLAND MIST 'BARRITA'	1 FS	\$50	VALLEY KNIGHT 'PEARL'	3 B&L	\$30 EACH
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HIGHLAND MIST 'DILLABIRRA'	1 FS	\$50	VALLEY PROMISE 'PERFECTION'	1 FS	\$40
HIGHLAND MIST 'JAYNE'	1 FS	\$50	VALYA CRAIG 'JUDY'	2 FS	\$40 EACH
HIGHLAND MIST 'LALCHERE'	1 FS	\$60	VIA REAL 'ALEXANDER'	2 FS	\$30 EACH
HIGHLAND MIST 'LALCHERE'	1 B&L	\$30	WALLARA 'GOLD NUGGET'	3 FS	\$30 EACH
INMAN VALLEY 'HARRY'		\$100	WALLARA 'GOLD NUGGET'	2 FS	\$30 EACH
IVY FUNG 'COSSACK'	3 FS	\$60 EACH	WALLARA 'WONDABAH'	2 FS	\$40 EACH
IVY FUNG 'COSSACK'	3 FS	\$60 EACH	WINTER WONDER 'SANDRA'	1 FS	\$50
JEAN SLATTERY 'CECIL PARK'	3 FS	\$50 EACH	ZUMMA BOYD 'TETRA HIGH'	1 FS	\$100

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## TENTH AUSTRALIAN ORCHID CONFERENCE

# Orchids Australia '86 is for Everyone

SYD MONKHOUSE

To organise an especially large event such as "Orchids Australia '86" is an enormous task, involving many people in thousands of hours of work.

The object of any orchid conference is to gather together, for a few days, as many orchid enthusiasts as possible from all over the world. The friendships, the fun and the learning that all registrants participate in, should combine to make each orchid conference, in its own individual way, an event to remember for the rest of the lives of all who are involved.

"Conference" to me is a word that basically means interesting and enjoyable "talk".

It can mean "talk" by experts who are ever willing to share their special knowledge with us all so that we can broaden our knowledge of, in our case, orchids and leads

bars, hotel lobbies, or in private hotel rooms into the early hours of the morning after the day's events (when we should all be sleeping but, of course, are not!). This "talk" is the true purpose of the conference, it is far more valuable than seeing the orchid show, which, after all, is a somewhat secondary but nonetheless exciting and spectacular feature of the orchid conference.

The hours of work that the host society puts into ensuring that the huge event is completely organised down to the finest details; the financial risks that the host society takes in engaging transport, booking lecture theatres and the equipment needed; the huge outlay necessary in reserving accommodation (and these days paying deposits on it); the printing costs, postage expenses, telephone charges, deposits on exhibition halls. Surely I need not continue!



to our better understanding of the plants that we love, and, of course, improving our growing of them. This segment is wonderfully covered in the outstanding array of speakers, recognised world wide for their expertise, who fill our lecture sessions. Two recent additions to the published list further add to the brilliance of it — Mrs Joyce Stewart of Kew Gardens, England, one of the world's most loved speakers, will give a talk about "Orchids at Kew Gardens". Mr Weyman Bussey of Mexico is another outstanding speaker who will tell us all about the "Orchids of Mexico".

"Talk" can also mean those most valuable personal conversations between registrants at informal get-togethers, on scenic bus rides, during priceless nights such as our "Aussie Night" will be, and the many hours of "talk" that will take place in various

All of this work and the risks are in vain unless the conference is fully supported by all orchid enthusiasts in Australia, and especially by all orchid societies.

The conference needs registrants. No society expects to make a profit from a conference, but, we would like to break somewhere near even!

The registration charge for "Orchids Australia '86" is \$55 single and \$90 double, and, don't forget, this includes the opening dinner — there has never been better value. I have heard of societies that plan to visit "Orchids Australia '86" *en bloc*, go to the conference show, and then return home again — they do not plan to register. Worse than that are the few individuals, even in my own club, who say that they do not intend to register but "will get most of the benefit of registration anyway".



# FOLKS YOU'LL LIKE TO MEET!

*Some of the workers behind Orchids Australia '86.*



Ye gods! Two gigantic week-long orchid shows over three weeks directed by one man. That's the task of show marshal Jim Cuming.

Jim's first task is the Orchid Club of SA Inc Spring Show, featuring the \$1,500 Champion Orchid of Australia. This is part of the Adelaide Royal Show, finishing Saturday, September 12. It's worth arriving a week before the conference just to see the Royal Show and Spring Orchid Show. And if you wish to chase that \$1,500 send now to OC of SA Inc for details.

By September 17 the pavilion where the Spring Orchid Show was staged will be transformed into Orchids Australia '86 International Orchid Show.

"How on earth will Jim do all this?" you may ask. We are not sure, but certainly Jim is, and there will be definitely no problems.

This is because Jim Cuming is an excellent planner and organiser who is also a very popular, pleasant and happy person with a great band of skilled and eager helpers. Jim's quiet and friendly manner will be evident to interstate and overseas exhibitors who arrive with the difficult task of staging an exhibit in a far-off venue. At least one member of Jim's "special helpers" team will have met the exhibitor by correspondence months before. It will be his pleasure to make certain that every requirement of the exhibitor will be ready.

Jim Cuming and his wife Evelyn manage their own orchid nursery, specialising in intermediate cymbidiums. In his forties Jim

is a formidably-built man, and, even with his cool friendly manner, he can still be very firm and will remain in control under trying circumstances — an ideal show marshal.

## Tours and Hospitality

These two essentials of a conference intermingle. That's why Neil Christoph of Tours is on the Hospitality Committee, and Jill Taylor of Hospitality is on the Tours Committee.

Neil has been an orchid grower and a member of the Orchid Club of SA since World War II. He is in his early sixties and is experienced with orchid conferences, having attended many, and been in a similar organisational area for the last South Australian conference in 1973.

Organising tours involves difficult negotiations to ensure the best standard of value and service. Then there is the task of ensuring that all who book meet with no hassles that could impede enjoyment. Neil's invaluable experience means the smooth running of Orchids Australia Tours before, during and after the conference.

That Neil is thorough is evidenced by the wonderful tour programmes in the conference schedule. In fact "thorough" is a very good adjective to describe Neil, because when tackling a duty he follows it through until it has been completed to the last letter.

Neil is very fond of talking and a few enquiries about the history of the club, or of the early German-Polish population of Australia, will reward the enquirer with an absolute wealth of interesting and often humorous information.

Jill Taylor is a woman who was well aware of her equality with anyone well before this became a popular platform for some apparently less talented and definitely much more frustrated women. Jill is the club's longest-serving lady judge. She has been a keen orchid grower for many years, preferring to delve into a mixed collection rather than specialise.

## FOLKS YOU'LL LIKE TO MEET!

In her Hospitality portfolio Jill shows the advantage of her great experience in the way she is organising such special events as the "Aussie Night", the banquet and the opening dinner, plus dozens of other special hospitality functions. "Impeccable" describes Jill's approach.

It is not polite to disclose a lady's age but suffice it to say that Jill is mature enough to be able to cope with any situation that arises in her department and her keen sense of humour will always come to the fore.

### Judging

Don Gallagher is Registrar of Judging for the Orchid Club of SA and, of course, chairman of judging for Orchids Australia '86. He is also president of the Australian Orchid Council, Australia's top job in orchids.

Don is an accountant by profession and he shows his methodical training by the efficient manner he organises such large operations as the judging of a spring show.

Judges participating at Orchids Australia '86 International Orchid Show will find that the smooth and efficient management of the whole operation will bear testimony to that fact.

The confidence South Australians have in Don is reflected nationally, evidenced by his appointment as president of our only national orchid body.

Apart from his accountancy business he also runs Parade Orchids and a goat farm on his lovely property at Houghton. He grows a wide range of orchid genera. Awards have been achieved and he is generally among the prize-winners at shows. His specialties are cattleyas and phalaenopses.

Friendly and efficient Don Gallagher will be popular with all who meet him at the conference, as will his charming wife Jill and their two children.

For full information on the conference send to: The Conference Secretary, GPO Box 730, Adelaide, SA 5001.

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We are now sure these new miniature and intermediate cymbidiums represent a very real breakthrough in very early blooms. They are all bred from Peter Pan 'Greensleeves' 4N. They have tall stems, flowers well above the foliage, well-spaced blooms and are very free flowering. **EXCITINGLY NEW!!!**

### SUE 'AUTUMN SUNSET'

March, April, May, superb pot plants, 12-16 blooms. Tall spikes, showy light yellow with wine flush at base of petals, has a super bright scarlet lip.

### SUE 'WAITOHU' 4N

April, May. Superb, long-lasting flower, straight spikes, very long stems. Shapely, filled-in blush-pink tetraploid with cream lip marked with rose red.

### SUE 'MAIDSTONE' 4N

April, May, 12-16 blooms, upright spike clear of foliage, blush-pink with greenish overlay, if shaded, lightly-marked lip. Very full, round blooms.

### SUE 'MOTHERS DAY' 4N

April, May, 13-15 well-spaced blooms. Excellent pot plant. Straight spikes clear of foliage. Clear, rich, creamy lemon, flushed at base of petals. Cream lip stitched crimson.

### SUE 'GREEN FROST'

April, May, 12-14 blooms, slightly shorter spike but still above foliage. Perky, clear chartreuse with bold carmine blotches. A very striking contrast.

### SUE 'MINI MOUSE'

April, May, 10-14 blooms. Ideal pot plant. Very small bulbs and foliage, upright spikes, dainty, clear apple-green with a wine flush, super showy lip.

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These plants are a minimum of three growths.

## **Den. fleckeri x tetragonum 'Giganteum'**

These plants are a minimum of three growths. Expect some colourful hybrids.

## **Onc. (Kuron x tigrinum) x Raiatean Ballet x crispum 'Grandiflorum'**

These plants are a minimum of bulb and growth. Expect well-shaped flowers — some with spotting

## **Onc. Lynette Banks x crispum 'Grandiflorum'**

These plants are a minimum of bulb and growth.

## **Onc. sacrodes x Mantinii**

These plants are a minimum of bulb and growth. Spring flowering, speculative crossing.

## **Lc. Rojo x Slc. Jewel Box 'Scheherazade'**

These plants are a minimum of three growths. Expect red flowers on compact plants.

## **Den. (Snowflake x Merlin) 'Princess' x Den. Sagimusume**

These plants are multi-growthed, compact softcane dendrobiums — expect whites on small-growing plants

## **Den. (Snowflake x Duo) x Den. (Snowflake x Merlin) 'Princess'**

These plants are multi-growthed, compact softcane dendrobiums — expect whites to pinks on compact growing plants.

## **Amesbury 'Camden'**

Bulb and growth(s), green, winter-flowering, intermediate cymbidium.

## **Jill 'Toms Delight'**

Bulb and growth(s), decorative, hanging pot plant. A highly-productive intermediate cymbidium.

## **Walu 'Red Lip'**

Bulb and growth(s). A sought-after intermediate cymbidium.

## **Dag 'Green Jewel'**

Bulb and growth(s). Emerald green, July/August, small-growing cymbidium (polymin).

**THE ABOVE COLLECTION OF EASY-TO-GROW ORCHIDS FOR THE GIVE-AWAY PRICE OF \$80 WHICH INCLUDES DELIVERY (ALL PLANTS ARE SENT BARE ROOT). REMEMBER: THE ABOVE ARE ALL COOL-GROWING VARIETIES.**

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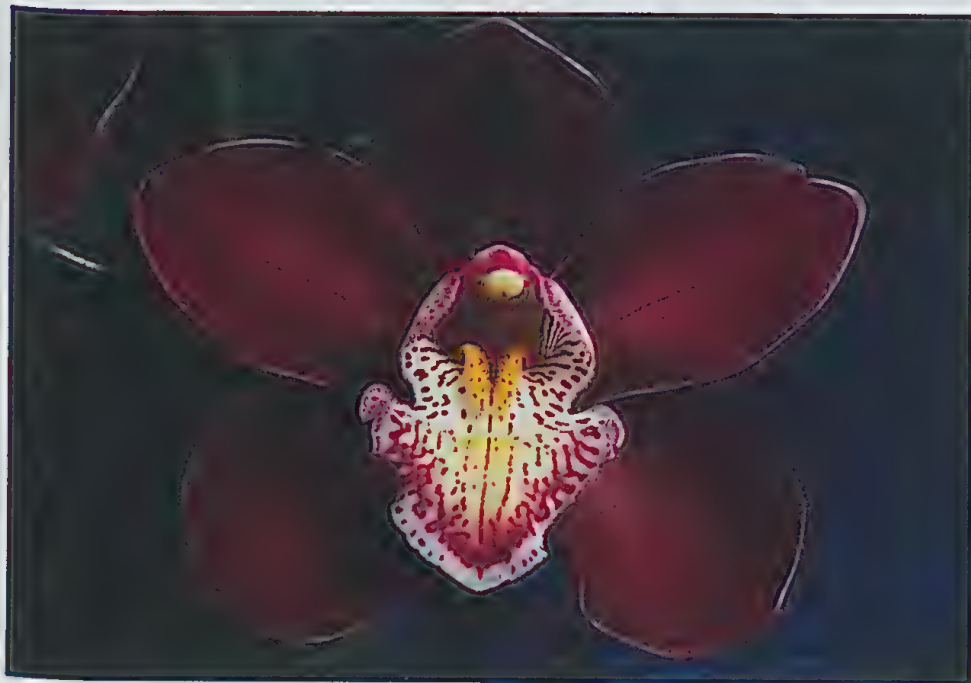
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*As from May 1, 1986 plants from flowering size to standard single growths available. As well as 'Jupiter', Wallamurra 'Carlingford' is to be released and new crosses in standard cymbidiums, mini cymbidiums, oncidiums, dendrobiums, paphiopedilums, sophro-laelia, cattleyas and many nursery-raised species.*

Our new autumn catalogue available from end of April and all needs for the orchid grower with advice for any problems.

There is always a display of flowering orchids and we look forward to seeing you at Wondabah.

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9 TILL 5

Our agents with new releases in stock, available from May 1.  
All look forward to your visit.



# BOOK REVIEW

## Australian Native Orchids in Colour

LEO CADY and E.R. ROTHERHAM

It is a measure of the usefulness of this book that it has now had its fourth printing. First published in 1970 it was reprinted in 1977 and 1978, and again last year.

In earlier reviews AOR praised the high standard of text and photography, and in general this still applies. Mr Leo Cady is an easy-to-follow writer who knows and loves orchids. Mr Ted Rotherham is a professional who has specialised in flower photography. Their teamwork has produced an excellent book which is a first-class introduction to Australian orchid species, and a useful reference for experienced orchid growers.

On the copyright page the book is described as "Revised 1985" but unfortunately the revision is not complete. There is some confusion on the front cover which has a beautiful shot, enlarged nearly twice, of *Dendrobium superbiens*, whereas the caption on plate 85 refers to *Vanda whitaiana* (sic) as being on the front cover. *Vanda whiteana* is now regarded as a synonym for *Vanda hindsii*, an extension of the Nugini form. This orchid was the cover picture on previous printings. When *V. whiteana* and *V. hindsii* were found to be conspecific the latter was the older name and thus the correct one.

Another "revision" is the elimination from the back cover of six excellent illustrations although reference to them is maintained in the text.

Plate 4 is a nice shot of the top half of a florescence of a migrant orchid from South Africa which, due to its ability to spread copious seed and compete rigorously with grass for nourishment, seems to be taking over the WA south west. The now-accepted name is *Monadenia bracteata* (Sw.) Dur. & Schinz, not *M. micrantha*.

Plate 6 is a wonderful feat of photography. It shows an insect pollinator inside the galea of the Sickie Greenhood of which the accepted botanical name is *Pterostylis furcata* Lindley, and not *P. falcata* as in this book.

Plate 20 refers to *Thelymitra ixioides* as being found in all States except Northern Territory. However it is not found in Western Australia.

Plate 85 is apparently photographed from a garden specimen of an alba form of *Vanda tricolor*. The recording of *V. tricolor* in the Northern Territory is now regarded as dubious.

Plate 86. The name *Phaius tankervilliae* is correctly *Phaius tancarvilliae*. It is incorrect in the plate caption but correct in the text. In the text the first reference to *Phaius australis* is as *P. australia*, a littoral. Nicholl's recognition of *P. australis* as a valid species is regarded as correct.

Plate 106. *Pomatocalpa macphersonii* is described as the only species of the genus found in Australia, however in 1973 another species *P. marsupiale* was found in North Queensland. On page 104 Australia's only *Phalaenopsis* species is referred to under its old varietal epithet *P. amabilis* var. *rosenstromii*. *P. amabilis* var. *papuana* is correct due to the Australian form being conspecific with the Nugini one.

On page 110 reference is made to the "recently published (1969)" *Australian Indigenous Orchids* by Alick Dockrill. This book is long out of print but an updated edition is in prospect.

Compared to the intrinsic value of the book such blemishes are relatively small, however, it is a pity the opportunity was not taken to bring the book completely up to date. With new discoveries and taxonomical research nomenclature changes are always taking place.

However, with warts and all, this is a book well worth having.

- N950** *Cattleya violacea* x Self ..... \$3.50 in 2" pot  
*Summer-flowering species; bright rose-purple.*
- N977** *Dendrobium* (SHIRLEY FIRKINS x DOREEN) x  
TROY MIKAMI ..... \$3.50 in 2" pot  
*Whites with bold-splashed purple petals and lip.*
- MS496** *Dendrobium* (ANGELA x *nindii*) x  
bigibbum 'Superbum Var. Blue Horizons' ..... \$3.50 in 2" pot  
*Hoping for blue semi-antelopes.*
- MS405** *Vanda* CHIENGMAI 'Smile' x Self ..... \$3.50 in 2" pot  
*Selfing of this excellent form; good art shades.*
- MS396** *Cattleya* OLD WHITEY 'Mt. Empress', AM/AOS x  
C. QUEEN SIRIKIT 'Bardon', AM/AOS ..... \$3.50 in 2" pot  
*Autumn-flowering whites with excellent potential.*
- MS400** *Cattleya* MARY ANN BARNETT 'Exquisita', FCC/AOS x  
C. OLD WHITEY 'Mt. Empress', AM/AOS ..... \$3.50 in 2" pot  
*Good quality, potential for showbench whites.*
- MS417** *Cattleya* MARY ANN BARNETT 'Luxumberg Waltz' x  
C. PRINCESS BELLS 'Betty's Bouquet' ..... \$3.50 in 2" pot  
*Showbench quality whites for autumn.*
- MS429** Lc. ORCADE (Lc. CHINE 'Bouton D'or x  
Lc. AMBERGLOW 'Magnificent') ..... \$3.50 in 2" pot  
*Remake of good golden yellow with red labellum.*
- MS433** *Dendrobium* CIRCE 'Gail' x (NOEL'S ULTIMATE x  
SUZY WONG) ..... \$3.50 in 2" pot  
*Vibrant dark purples; phalananthe to intermediate type.*
- RD224** *Dendrobium sylvanum* x Self ..... \$3.50 in 2" pot  
*Rare species from Solomon Islands.*
- N1000** Mini *Cymbidium* CAMELOT 'Tartar' x  
RED SQUIRE 'Bud's Glow' ..... \$7.00 in 4" pot  
*Blush pink crossed with a third-generation, glowing dark red overlay over pale yellow.*
- N1002** Mini *Cymbidium* TOUCHSTONE 'Mahogany' x  
FIREWHEEL 'Orange Flame' ..... \$7.00 in 4" pot  
*First-generation devonianum hybrid; deep red with pendulous spike.*
- N1003** Mini *Cymbidium* pumilum 'Myosho' x  
CALIGOLD 'Orange Queen' ..... \$7.00 in 4" pot  
*A selected pumilum crossed with a small standard orange.*
- M72** Mini *Cymbidium* AMESBURY 'St. Patrick'  
MERICLONE ..... Size B. \$10.00  
*Green with red lip miniature.*
- M75** BIC. YELLOW RIBBONS 'Croydon', AD/AOC-OSNSW  
MERICLONE ..... Size B. \$8.00  
*Beautiful yellow with dark yellow splashes.*

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# Changes to Judging Standards

GRAEME BANKS, NSW REGISTRAR

The last AOC meeting was held in Brisbane on October 25, 1985 when many subjects related to judging were considered. Many did not achieve the required majority to effect changes to the standards. However, there were several that were adopted — these are briefly summarised hereunder.

**Substance:** Substance is now defined as the "qualities of firmness". Previously it was "the thickness of tissue in a flower".

**Colour:** When assessing colour for all genera, judges are to consider "the qualities of beauty and appeal — credit shall be given for colours which are unusual or have special beauty and appeal". This is in addition to the existing requirements under the various standards, e.g. clear, glistening and fresh — not smudgy or blurred — and definition and distribution of shadings and markings.

**Botanical Certificate:** The AOC will now award a botanical certificate to a plant of a species that is rare and unusual in cultivation.

**Phalaenopsis:** Points for size of flower and floriferousness have been amalgamated and will now be allotted as follows:—

Number Blooms	Less than 80 mm	80 mm	85 mm	90 mm	95 mm	100 mm	105 mm	110 mm	115 mm	120 mm
20	11	12	13	14	15	16	17	18	19	20
18-19	10	11	12	13	14	15	16	17	18	19
16-17	9	10	11	12	13	14	15	16	17	18
14-15	8	9	10	11	12	13	14	15	16	17
12-13	7	8	9	10	11	12	13	14	15	16
10-11	6	7	8	9	10	11	12	13	14	15
8-9	5	6	7	8	9	10	11	12	13	14
6-7	4	5	6	7	8	9	10	11	12	13

this genus. There has been some minor adjustment of points — five taken from "Substance and Texture" and added to "Colour and Attractiveness".

**Shape** ..... 35 points

The prime requirements are that the flower should be approximately circular in outline and concave rather than flat. It should be symmetrical about the vertical plane with the upper and lower halves reasonably balanced. The pouch and petals should be in proportion to the other segments. When viewed from the back the general effect should be reasonably smooth, with the upper part of the ventral neatly overlapping the lower portion of the dorsal; slight rolling back of the top of the ventral is not a major defect.

These prime requirements will generally be achieved when the dorsal and ventral sepals are rounded rather than pointed, with the petals obovate and so held as to conform with the concave form of the flower. The ventral should contribute to the circular appearance of the flower without necessarily protruding below the pouch.

**PAPHIOPEDILUM:** The standard which has applied for many years has been revised on a submission from this society. The new standard is as follows. The wording for "Shape" and "Colour and Attractiveness" are designed to express in words what judges currently look for when assessing

Neat goffering of the edge of the dorsal and/or the upper edges of the petals is permissible provided it is even and does not detract from the general round appearance of the flower. A slight "pinch" on both sides of the dorsal at the apex is not a major defect.

## Changes to Judging Standards

Reflexing of any segment should be considered a major defect.

**Colour and Attractiveness.... 30 points**

Colour shall include white or any other colour or combination of colours. It should be clear, glistening and fresh, not smudgy or blurred. All markings and shadings should be well defined and harmoniously distributed. Credit should be given for colours which are novel, unusual or especially attractive.

Attractiveness shall be assessed by viewing the flower as a whole, and shall include colour and qualities such as charm, appeal and distinction. The criterion is that the flower should be attractive.

**Stem ..... 10 points**

The stem should be firm and hold the flower well above the foliage so that the flower is displayed effectively.

**Size ..... 15 points**

Size shall be measured across the visible limits of the dorsal sepal. Points shall be allotted in accordance with the following scale:

105 mm and over .....	15 points
100 mm and over .....	14 points
95 mm and over .....	13 points
90 mm and over .....	12 points
85 mm and over .....	11 points
80 mm and over .....	10 points
75 mm and over .....	8 points
70 mm and over .....	6 points
65 mm and over .....	4 points
under 65 mm .....	2 points

**Substance and Texture..... 10 points**

The flower shall be of good substance, refined quality, firm, fresh, lustrous and without blemish.

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PHAL. NANA HANCOCK) x PHAL. KAREN ANN McFARLANE, HCC**  
Exhibition type, large whites with red-coloured lip.

### **D. AUTUMN SHOW 'WHITE' x D. ELATED**

A crossing of Phalaenanthus and Latouria sections. Should be more prolific growing and free flowering — whites.

### **D. ELATED x D. AFFINE 'CAIRNS'**

**Silver Medal — 10th World Orchid Conference, Durban, South Africa.**  
Expect longer sprays of white blooms with green lip. These plants are vigorous growers and should have an extended flowering season.

### **LC. WESTERN SUNSET x LC. HAWAIIAN FANTASY 'DORA'**

LC. Hawaiian Fantasy is one of the most popular splashed-petalled cattleyas in Hawaii. Expect yellow background with purple-splashed petals — very full shape.

### **BLC. SYLVIA FRY 'SUPREME' x LC. WESTERN SUNSET**

Expect a range of sunset colours, full shape, exhibition type.

### **LC. CLOTHILDE x (C. PREVILLA WARD x C. GUTTATA)**

Numerous flowers in greens to orange with spotting and bars.

### **(BLC. NEIL BLAISDEL x LC. TERRY WAYNE) x LC. WESTERN SUNSET**

Yellow to orange background, splashed petals, good shape — very highly recommended for the cattleya connoisseur.

*The following Vanda parents are all of exceptional full shape and with the Ascocenda influence the time to first flowering is shorter and they will flower more frequently.*

### **V. VARAVUTH 'BLUE' x (ASCO. BLUEBOY x V. SEEPRAI) 'BLUE'**

Even though there is Ascocenda in the crossing, expect large Vanda-size blooms, dark blue, extra-full shape.

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A sibling cross, expect excellent-shaped blues and rusts.

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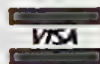
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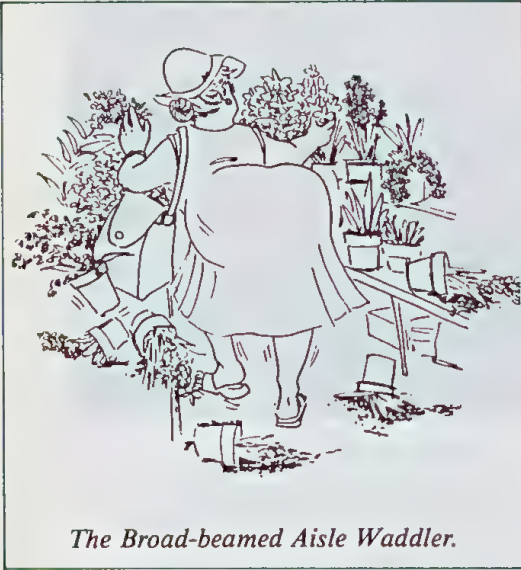


# What is an Orchid Hobbyist?

FRANK FORDYCE

An orchid hobbyist is someone who will drive three hours to spend thirty minutes admiring plants in bloom they possibly cannot afford, reading unpronounceable names squeezed sideways on small labels attached to "less than attractive" plants.

Avid orchid hobbyists can be identified by their quizzical facial expressions, and their ability to become totally absorbed in the object of their interest, incapable of distraction; and all have a self-admitted drive to possess the one plant recognised by their peers as finer than any plant owned by other members of their club.



*The Broad-beamed Aisle Waddler.*

In most instances they drive either a Mercedes, a very large older station wagon, or by necessity have graduated to a much-needed combi-van. They are either single, past 30, or married and over 50, with grown children.

Every hobbyist appreciates the uniqueness and variety found among Orchidaceae; from the tiny Pleurothalids to the mammoth Rhyncolaelias. They smile with the indulgence of a practised mother when an unlearned refers to their favourite *Epiphyllum* as their prize orchid, yet they secretly harbour their own fantasy of discovering "the rarest of the rare", the black orchid!

People who grow orchids are interesting

to watch. All are blessed with great patience, willing to share their orchid knowledge without hesitation; have a great sense of curiosity and adventure, some travelling to the far ends of the globe seeking further orchid experiences, and most have an insatiable sex urge that causes them to hybridise their favourite plants without rest.

Orchid people worldwide are all alike. Those of you that have enjoyed the experience of bird-watching will be reminded of the similarity of certain birds to a few orchid people you know.

Take, for example, the broad-beamed Aisle Waddler, that robust bird who seems to knock over every other plant as they bounce from side to side down your greenhouse walk.

Or the delicate Hyper-hummingbird type that flits from one flower to another in rapid succession, chirping with delight at every stop.

Then there is the curious-crested Cuckoo who must touch and feel every bloom — a first cousin to the Great Crested Flower-twitcher.

One of the most unusual is the seldom seen, difficult to identify, not particularly attractive bird that blends easily with its surroundings, the Long-toed Pollen Snatcher.

A bird that everyone recognises, commonly seen in the company of Fan-tailed Orchid Pigeons, is the blase, often bored looking companion bird, the wonderful enduring, patient, unruffled Mugwump.

But without doubt, the bird that is most revered of all has currently been placed upon the Endangered Species list. This stately and handsome bird has proven to be of tremendous value to orchid merchants worldwide. It never fails to seek out the most showy, rare and expensive orchids known to man, and takes them to its nest for their security and protection. Found primarily on the wide plains of NSW is the rare, and highly sought-after, opulent Green-backed Southern Twanger.

You have undoubtedly noticed that orchid people are creative. Seldom do they pass the opportunity to hybridise their prize blooms. And one of the real joys of hybridising your own orchids is the satisfying experience of naming and registering your own hybrid with the Royal Horticulture Society. This accomplishment is literally the climax to the years of hoping, planning and waiting for those first magnificent blooms to appear.

Ah, but surely your horticultural "first born" deserves the name nearest and dearest to your heart; your beloved mate's name. So, as the lead bulb develops its first sheath with the promise of its tiny buds to unfold their magnificence, you announce to all the world that this elegant hybrid will signify and commemorate the love and respect you have for your beloved by carrying their name for eternity.

And as you prepare the necessary Royal Horticulture Society's hybrid registration form you find, to your horror, that the last *AOR Bulletin* lists the identical parents you have used, newly registered by someone else as "Old Ironsides".



*The Broad-beamed Aisle Waddler*

But growing orchids is a delightful and rewarding challenge. You are very special people. You seek out the world's most distinctive genus to propagate and share with others. Surely you must have asked yourself what you did before "B.O." (Before Orchids).

- Did you know about the percentage of sodium salts per 100 gallons of water?

- Did you worry about pH balance?
- Had you heard of asymbiotic culture?
- ... or pseudo-copulation?
- And you might have thought that *photo-periodic temperature response* was a condition your wife began at age 40.

Now that you're an accomplished orchidist you can amaze your friends with your knowledge and lead any conversation with such learned terms as:

"Did you know that *Angraecum Sesquipedale* of Madagascar is pollinated by the night-flying *Xanthopan morgani Praedicta* whose proboscis is 26 cm in length?"

Just think what orchids have done to make you socially acceptable!

If you are the wife of a newly traumatised orchid hobbyist I would like to suggest some guidelines that may help you become adjusted to this new experience.

While you may look in on your spouse from time to time, it is essential that you leave him basically alone with his newly found interest for several weeks.

It is advised that you begin to plan your financial matters to include a new greenhouse, the possibility of a "soon to be much needed" station wagon or van in which to transport your spouse's newly-found hobby, and the probability of a sudden interest in vacationing in some region of the world where (inadvertently) orchids are native.

It takes orchid hobbyists several months to acclimatise themselves to their newly found interest, and during that time it is very important to observe their systematic reflexes. Here are a few you can watch for:

Husbands returning from work may pass through the house without that friendly kiss or word (you're lucky to get a wave of the hand), go directly to their orchid growing area totally oblivious of any of your attempts at conversation.

Budget expenses may suddenly include such essentials as greenhouse shade material, 25 - 6" pots, one *Grammatophylum scriptum*, two bags potting mix, subscriptions to four orchid publications, and other very necessary expenditures.

He may stop watching television and suddenly develop an avid interest in reading ... everything that seemingly has ever been printed about orchids and their culture,



## What is an Orchid Hobbyist?

from *Aspasia* to *Zygopetalum*. Your library will increase substantially.

Dates on calendars will be circled telling of fabulous orchid meetings and shows. Long (and very technically involved) conversations on the telephone will become habitual.

Your spouse will suddenly become concerned that you have no hobby and make every effort to involve you in photography. Even to the purchase of an expensive "close-up" camera that, incidentally, takes excellent pictures of his magnificent orchid blooms.

The garden will begin its "return to the wild" and somehow it will seem logical to hire a gardener. Your own "green-thumber" has directed all of his expertise to the area inside the greenhouse.

You can help your partner immeasurably if you learn to make hanging baskets and wall plaques and mix up special insecticide concoctions for every bug in the land.

Lay in a supply of can openers, measuring spoons and cups, and don't forget to save all empty plastic bottles for special fertiliser concoctions.

Get new bifocals and a magnifying glass so you can help spot every mite or aphid, can trace every ant within 50 feet of the greenhouse, and see the silver trail of a snail before it gets within 10 feet of your partner's favourite orchid.

If your orchid partner has a single strong point, it just has to be his ability to somehow influence, direct, or cause any ordinary conversation to be directed towards orchids.

You will find that at sometime during the awkward training and knowledge stage of the hobby of growing orchids that *you, too*, will have become equally as interested as your spouse.

Both of you will have found a hobby that will continue to intrigue, educate and amuse you for the rest of your lives.

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# Communicating With Your Orchids

From Illawarra OS Newsletter.

On rare occasions when some small success came my way when showing orchids at the monthly meetings, I regarded it as a triumph of mother nature over my bumbling efforts of plant culture rather than any special effort of my own. I was therefore non-plussed when asked by other members for my recipe for the success. One question asked, usually by lady members, was what I had said to the plant, and how I had spoken to it to get such results. As I had said nothing, I gave the matter serious thought and decided to try it.

I reasoned firstly, that it would cost nothing, which is my favourite price tag. There would be no physical effort, which is for me another big plus. It could do no harm even if carried to excess, and perhaps my seedlings would even approach the glowing descriptions predicted by the hybridists.

I began with curt and discreet 'Good Mornings' discreet, because if overheard I may be considered a candidate for the funny farm. On feeding days I would announce the menu and, running a high-class establishment orchid-wise, I offered the dishes in French. On fish-fertilizer days the dish of the day would be "Poisson a la Foggitt", similarly "Consomme de Nitrosol"

or "Aguasol avec eau de Millbrook". The only orchid that seemed impressed was my Warrianya 'Parisienne', probably the only one that understood the language. I am afraid I have a very "ocker" collection.

When flower spike-hunting time begins, I find myself really babbling and making more promises than a politician in a marginal seat at election time.

Even with all my efforts, as other growers will no doubt be aware, there are always odd orchids which are tardy in setting flower spikes. A special system was devised to combat these annoying plants. From the roof of the shadehouse I suspended a can of weedkiller by a very frayed piece of string which is positioned just above the plant and poised like the Sword of Damocles. Then, using my most sinister voice I chanted "We have ways of making you flower".

A short treatment is usually enough to make the most-reluctant plant sprout spikes like quills on the back of a porcupine. Whether the system of talking works or not I do not know, perhaps I should send some of the plants to Coventry to act as controls. It is a very one-sided conversation, but at least there is no answering back.

## AUSTRALIAN PERSONALITY AT BANGKOK CEREMONY!

Two world-renowned orchid personalities figured in an auspicious ceremony in Bangkok recently. One, an Australian, as a guest, the other as the central figure.

Mr Kevin McFarlane of Cairns who is internationally known for his hybridising with dendrobium, phalaenopsis and vandaceous orchids, was a recent visitor to Thailand. On learning he was in Bangkok Mr Rapee Sagarik, the virtual founder of the orchid industry in Thailand, invited Mr McFarlane to attend his induction as a Buddhist monk.

Mr McFarlane found the ceremony most impressive, and he greatly appreciated the honour and privilege of being present.

It is customary for Thai gentlemen to become a monk for a period and then return to civilian life.

All Mr Rapee Sagarik's world-wide friends know this will be an ennobling and spiritual experience for him and will wish him reverence and merit in his progress along the eight-way path and four great truths of Buddhism.



# *Cymbidium parishii*

## REGAINED

At our meeting Andy Leamon presented an attractive small, white, scented cymbidium, which I thought was extinct, namely *Cymbidium parishii* 'Sanderæ'. I set out to follow the story of this species from its discovery to our present day.

It is, as well as I could make out, as follows:—

In 1859 the Reverend Parish found a cymbidium which he thought was a variety of the species *Cymbidium eburneum*. It was however declared by some quarters to be a separate species and was therefore designated *Cymbidium parishii*. Some plants were despatched to England, but the boat sank in the Ganges. However, in 1870 Parish was able to successfully consign some more of the same to Hugh Low & Co in England. Several orchid enthusiasts purchased the plants at one hundred pounds each and successfully flowered them over the next few years and they were pictured and described in the various orchid manuals of the day.

In 1904 an orchid was sent from Vietnam to Messrs Sander & Sons of England and on the journey the plant developed a flower spike and when flowered the plant was exhibited as *Cymbidium parishii* 'Sanderæ' and received an FCC/RHS. It was Rolfe of Kew who declared it to be a clone of *Cymbidium parishii*, which by this time was extinct as a cultivated plant in England. It had been a poor grower and a mean provider of new leads.

There were and still are to this day, some doubts about Rolfe's declaration, but nevertheless whatever it was, *C. parishii* 'Sanderæ', is very interesting because it features in the ancestry of many of our well-known hybrids namely, *C. Rosanna*, *C. Balkis*, *C. Dryad* and *C. Mary Ann*.

*C. parishii* 'Sanderæ' then leaves the stage for about 50 years. In 1953 in the USA *Cymbidium Prelude*, a hybrid of *C. parishii* is recorded, the pod bearer being

*C. parishii* 'Sanderæ', the parent having been purchased in England.

A chromosome count of *C. parishii* 'Sanderæ' was made about this time and it is recorded as a diploid (2n=40). From here the scene shifts to the sixties when Mrs Menninger of USA (a keen cymbidium expert), becomes interested in *C. parishii* 'Sanderæ' which she discovers almost abandoned at the nursery of Armacost and Royston. Like *C. parishii* the clone 'Sanderæ' was also a slow grower, a poor producer of new growths and NOT inclined to selfing. Mrs Menninger was successful with meristem culture so that the plant is available today as *C. parishii* 'Sanderæ' and *C. parishii* 'Emma Menninger' 4n.

It is no doubt listed elsewhere as other varieties, but no doubt all tissue from the original plant. The flowers on the plant exhibited by Andy Leamon were similar in many respects to a drawing of *C. parishii* made by John Day in 1878; the similarities are flower, white sepals and petals, lip white with big maroon/purple spots; the throat flushed yellow, the differences are *C. parishii* 'Sanderæ' flowers are more open-faced, appears to be heavier substantiated and a longer flower spike. (The habit of Day's flower looked very floppy and cuppy). Perhaps to be expected from a plant raised from the diploid state to a tetraploid, if it was a clone of 'Emma Menninger' 4n. The vegetable growth of the plant depicted by Day is different to the plant exhibited at our meeting. The former being a much longer pseudo bulb obscured by the leaves which were more plentiful than the latter plant exhibited.

A very nice plant to have, they were available from several nurseries nationally. I should imagine they would prefer a little heat in our Melbourne winter.

Arthur Knight in  
Melbourne Eastern OS Bulletin.

# Enjoying *Coelogynes* in Tasmania

CHRIS NICHOLAS

The genus *Coelogyne* contains some 125 distinct species, geographically spread from China across to the Himalayas, down through the Indian subcontinent, across to Fiji and as far south as the island of Timor just north of Australia.

Likewise some species such as *Coelogyne cristata* originate at altitudes above 3,000 metres in the Himalayas where they are subjected to freezing conditions for part of the year but with quite moderate summers. Others such as *Coelogyne asperata*, which ranges from the Malay Peninsula through to Papua New Guinea, require hot conditions right throughout the year.

There are of course other species which come somewhere in between and generally require some winter warmth. However you may be able to cultivate some of these if your conditions are just that little bit cosier.

I would suggest you steer clear of the warmer to hot-growing species, unless you have the right conditions, and concentrate on the cooler ones; there is quite a range from which to choose from. Your orchid nurseryman should advise you on what you can cope with.

## CULTURE — A FEW BASIC POINTS TO REMEMBER:—

1. They generally don't like to be disturbed. So repotting is not a regular habit.
2. They abhor stagnant potting material.
3. They enjoy good light.
4. They have a short growing season and enjoy fertilizer during this period.
5. They should have a short rest after bulbs are made up.
6. They are classed as epiphytes and it is not essential that they are pot grown.

### *Coelogyne mooreana*

Mine grows in a 13 cm plastic pot with a very rough mix of radiata pine bark, charcoal, leaf mould and gravel. This mix has good drainage and will last for years with-

out becoming stale. This particular plant is part of a specimen which was growing in a 25 cm slatted hanging basket for many years with the same type mix. Because of its compact growth habit *Coelogyne mooreana* is well suited to this type of culture and a large plant will give extended flowering over 3-4 months.

### *Coelogyne cristata*

This plant was growing in a shallow 25 cm terracotta pan, again with the coarse mix. Growths are trained to remain within the confines of the pan and will eventually grow over each other. When this happens simply work some finer mix between the older bulbs so the new roots have something to penetrate.

Another form of this species with a wandering growth habit was mounted on a slab of poplar bark over a film of sphagnum moss and hangs vertically in the glasshouse. With this type of culture it is a problem to keep the plant moist in summer hence the moss. *Coelogynes* must be kept moist but not wet and soggy, when in active growth.

### *Coelogyne ovalis*

Mine is mounted on a sheet of Spanish cork bark, again with sphagnum moss but at an angle of 30 degrees to take advantage of its climbing habit.

A fourth *coelogyne* (name unknown) grows on a thinnish slab of tree-fern and over the years has completely covered the slab. If you try this method of culture, ensure that the fern is the free-draining, wiry type and not the soft, soggy one.

All the above plants grow in an unheated glasshouse with conditions down to freezing on frosty nights and all are either hanging high in the glasshouse or on elevated shelves where they enjoy very good light.

These basic notes will, I hope, encourage others to try this very interesting, but often overlooked genus.

7 Kelvin Avenue, Moonah 7009



# BOOK REVIEW

## Culture of the *Phalaenopsis* Orchid

BY BOB GORDON

Publisher: Laid-Back Publications,  
Rialto, California.

Recommended retail price, \$23.25.

An extraordinary and timely book on growing the genus. The approach is very direct. No coffee table pictures. No mystic mumbo-jumbo. It is doubtful that experienced phallie growers will disagree with what the author, Bob Gordon, regards as basics.

The author is a southern Californian and his experience as a grower is centred there in an area which possibly contains the greatest concentration of specialist phalaenopsis growers in the world. Southern California is very similar to most of the areas where phalaenopsis are grown in Australia. Read north for south and July for February and this book is a goldmine for Aussies. Come to think of it is there another book devoted exclusively to the genus *Phalaenopsis*?

Chapter I is a short course on growing. If adhered to it would enable the average grower to achieve reasonable results. The next, and very long, chapter, covers all the additional factors needed to achieve outstanding culture. These are positive points based on the author's experience and the experience of other leading Californian growers. Mr Gordon submitted his draft manuscript to many growers and acknowledges their help. There seems to be no aspects of culture left uncovered, and the only wasted words are for touches of humour.

Chapter III is titled "Besides Good Care" and deals with hybridising, shows and phallies as cut flowers. Also a section on "What Flowers to Grow?", starting

with the injunction: "Don't you dare skip this section". A little preaching here, but the sermon is full of truth.

Chapter IV is particularly meaty for Aussie growers. It deals with the growing house and is full of suggestions for control of all the aspects of environment necessary for top culture. Money-saving ideas, too.

The final chapter has a section on sources of plants and supplies. This is mainly of use to USA growers, but the nurseries named could be contacts for Australian growers.

The book is printed in a very legible typeface on heavy substance paper. A feature is the use of sentences in boldface to stress vital points. Nineteen black and white photographs amplify the descriptions. The bibliography is mainly a list of articles from the *American Orchid Society Bulletin*, an indication of the lack of books devoted to the genus. Useful books of a general nature are named.

The last page is a listing of Murphy's Law for phalaenopsis growers. Murphy was a phallie grower who maintained that: "If it can go wrong, it will" and "Pride goeth before crown rot". With this book near your phallie house you stand a fair chance of proving Murphy wrong.

Strongly recommended.

Mr Vic Madden of New South Wales has also introduced many innovative measures to the growing of phalaenopsis, some of which are similar to those suggested by Mr Gordon. It is hoped to present an article by Mr Madden in a future issue.

**Special Note.** Mr Gordon is arranging for copies to have a sheet inserted identifying Australian products that will serve as suitable substitutes for products mentioned in the text and not available in Australia.

# An American in our Tropical North

ROBERT L. HENSHAW

One of the pleasures of travelling the world is to taste the wide variety of good food in foreign countries, but my favourite pastime when travelling is to explore different orchid nurseries, always looking for the rare and unique.

Prior to planning a trip to Queensland, Australia I wrote to respected friends of a friend David and Susan Collier in Cairns about my interest in orchids, so they graciously agreed to conduct me over their two-hectare nursery, which is set in a valley surrounded by virgin rainforest-covered mountains and fast-running mountain streams.

Early one beautiful Monday morning my Qantas jet flew over the Great Barrier Reef to land at Australia's latest international airport at Cairns.

We drove up the winding Gillies Highway 300 feet above sea level, past many lovely homes and modern shops, then through miles of sugar cane and over two rustic timber bridges into "Orchid Valley". With its manicured green lawns, tropical palms and rock gardens it was a sight to behold. Being in late June the air was cool and crisp without pollution.

In the first building was a modern laboratory set up with the latest equipment for mericloneing. An immaculately-kept flask room adjoins, mostly of dendrobiums and cattleyas.

Next into one of the main nurseries, an all-steel frame building with Sarlon cloth walls and white fibreglass roof. Row after row of healthy young seedlings in wire trays on pipe benches, all neatly arranged, and all plants growing beautifully, some with the assistance of "Gro-Lights" where required. Maiden-hair ferns flourished under the benches while big staghorn and elkhorn ferns hung from slabs of treated timber around the walls. As we step from this building onto the stone pathway leading through the tropical garden one notices the fragrant-smelling frangipani and numerous tropical plants in blazes of bright colours. We passed the government-approved quarantine house but were only permitted a peep

through the fine stainless steel mesh at the many thousands of plants of many colours and varieties, I was surprised at the large size of many of the plants imported from many parts of the world. Looking around we are amazed at the height of the high jungle-clad mountains surrounding the nursery, a most impressive sight also, I believe the two tallest mountains in Queensland are in this area.

Next into the largest greenhouse, where many thousands of dendrobiums are potted with a local volcanic rock called "Quincan Gravel" going by the many blooms and flower spikes this potting mix has great commercial value. The many large plants gave a rather carnival-like atmosphere, and the large blooming plants hung on display made this building appear like an orchid show. Hundreds of wooden teak baskets from Thailand were overflowing with strong, bold-coloured vandas all growing beautifully in this climate, similar to their native land. There were all kinds of flowering orchids for sale many reasonably priced, but a huge New Guinea "Sepik Blue" was reluctantly offered for \$500. The surrounding gardens are impressive, extensive and truly elegant. Hundreds of rare tropical trees each of which is watered twice daily by a computer-controlled system.

At the end of this beautiful day I was driven back to my hotel with a generous bunch of deep-coloured vandas, ascocendas and mokaras in every colour picked from plants growing naturally in the many rock gardens surrounding the nursery. These beautiful flowers adorned my hotel room for the rest of my stay in North Queensland, a constant reminder of a truly wonderful day.

*PO Box 1091, Kailua Oahu,  
Hawaii 96734*

In a letter to the editor Mr Henshaw states: "This orchid nursery must rate among the top ten in the world, not for size but variety, cleanliness and helpful staff".



# *Caladenia bryceana* R.S. Rogers

## THE "DWARF" SPIDER ORCHID

R.L. HEBERLE



*Caladenia bryceana* R. Rogers  
Two southern forms, showing colour variations.

### The History

A planned horse and buggy visit to the nearby Pallinup River in September 1914 by Bryce MacIntyre, governess and her pupils Joyce and Madalene Formby, was to prove a momentous occasion. The girls and their governess were interested and familiar with the local orchids so there was much excitement when the trio returned to the family home that evening with the news that they had found a beautiful little green orchid not seen before.

As Bryce MacIntyre came from South Australia she was familiar with Dr Rogers' interest in the *Orchidaceae*. The orchid was posted off to him without delay. Confirmation soon came that indeed it was an unnamed species and would be named *Caladenia bryceana* in honour of the finder. Joyce Formby now living in Albany can still recall with pleasure that happy occasion

71 years ago. The tiny little orchid still shelters in a small reserve along the river, although land clearing has destroyed most of the original habitat.

### The WA Herbarium Files

Rica Erickson lists in *Orchids of the West 1951* (page 102) *C. bryceana* under specimens not represented at WA Herbarium.

The first official recording is a specimen from a Miss McWhinny in August 1960 collected 10 km south of Northampton. The next recording is by Ron Oliver of Albany in September 1962 from east of the Stirling Ranges followed in 1963 with a specimen from the same general locality by G.W. Heberle.

A check at the herbarium in September 1983 revealed that there had been no additional specimens added to the file. From this we might conclude there had

been little interest in *C. bryceana* (the "dwarf" spider orchid).

### The "Finds" of 1962-1963

Ron Oliver, his wife Mary and family, planned to make another search in 1963. Mr and Mrs Laurie Byrne and the Heberle family were invited to join the search. By afternoon teatime hundreds of orchids had been sighted but no dwarfs, our eldest son Greg, aged 12, wandered across the road to near a farm fence and suddenly came a shout "I've found them, I've found them," we all rushed over and there they were, a strong colony sheltering by a weathered log all standing up like little green soldiers on parade.

---

*"Within three years most  
were dug up with only  
the divots remaining."*

---

There was to be a disastrous sequel to this find. The location was given by us to other people, within three years most were dug up with only the divots remaining. The dead logs were pushed together and burnt. None survived that fire, a few specimens still grow in the general area.

### Other Locations

Within a rough circle embracing Amelup, Gnowangerup, Ongerup and Boxwood Hills we have recorded *C. bryceana* from six different locations — one on private property and the rest on reserves. We have also heard of a find at Needilup. As most of the land in this area is cleared the little orchid must have previously been quite plentiful.

The Northampton recording in 1960 was a quite remarkable find as approximately 700 km separate the two areas. On returning from a trip to the Kimberleys in August 1980 resulted in the finding of a strong colony in the Murchison River area. A subsequent visit to Northampton and a search along the coast to the north produced a very strong colony in greater abundance than expected. We have since heard that the dwarf spider grows along the coast as far north as Kalbarri and up river to the

gorges. There are two confirmed recordings by Andrew Brown in 1981 south of Kalbarri and Andrew and Stephen Hopper in the National Park the next year.

The question arises — if *C. bryceana* grows in locations approximately 700-800 km apart, "what of in-between?" This question was partly answered in September 1984 when a farmer and his wife, both interested in orchids reported approximately 100 plants growing adjacent to their farm, between Kojonup and Boyup Brook. The next year a further strong colony was located in the same general area confirmed by a friend of mine. From the preceding it is apparent further recordings are likely in other areas.

The diminutive size (most flowers can be covered by a one-cent piece), the mostly pale green colour of flowers and leaf, short stems and the habit of growing amongst myriads of small flora grasses and sedges, enabled the plants to blend into the landscape. Even the experienced searcher standing in among them can have difficulty seeing them.

Warren Stoutamine's research suggests that the species is pollinated by wasps, in my experience very few plants produce seed. A more positive strategy is vegetative reproduction apparent at most known locations, particularly so with the northern species. Our personal involvement over the past 20 years in the south has stimulated a desire to do further field work with the northern species.

### Conservation

*C. bryceana* together with other terrestrials was declared rare and endangered in 1982 on the recommendation by Andrew Brown then on the WA Herbarium staff and a member of the WA Native Orchid Study and Conservation Group Committee. Highly commendable as this may be, in practice a strong colony near the Pallinup River was ploughed in in 1983 and another location, the only known one for the pink to apricot colour forms (see illustration) was bulldozed the next year, however, in this instance some have survived in a rocky perimeter along the river.

— 78 Campbell Road, Albany



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# R . . . R . . . R . . . RUST IN ORCHIDS

BEN MATTHEWS

During a recent visit to Maryborough, I was in a discussion with fellow orchid growers as to the cause of damage to the leaves of vanda plants. Various possible causes were floated with a resulting conclusion, to take a specimen plant to the Department of Primary Industries for identification. An initial examination by microscope led to microbiological culture which identified the trouble as rust. A fungal disease, which in other plant families can be very devastating.

Rust in orchids was apparently not common in Australia but there have been reports of it occurring in previous years in NSW, mainly in the *Epidendrum* genus.

**Current distribution.** From discussion with growers it appears that plants with the symptoms, are found in the area from Bundaberg to Brisbane and I have a plant, which I obtained in Mackay, showing heavy symptoms. Genera known to have been affected include *Epidendrum*, *Vanda*, *Cattleya* and *Coelogyne* though there is no reason to believe that these will be the only genera which can be affected. American publications also list *Oncidium*, *Stanhopea*, *Phaius*, *Bletia*, *Cyrtopodium*, *Rodriquezia* and *Cycnoches* as all being affected.

**Symptoms.** The symptoms are most noticeable on the older leaves, though when inspected closely, can usually be seen in the early stages on the newer leaves. Very recent leaves or growths take a little time before they exhibit any symptoms.

The earliest symptoms are red or brownish flecks running along the parallel veins. These flecks gradually increase in area to the shape of an elongated diamond but occasionally the area may develop into an oval shape. As the disease progresses the centre of the coloured area develops a pustule (or blister) which eventually bursts to distribute fresh spores. This area then dies. Further pustules develop in this diseased

tissue continuing the process. Generally the spores are a rusty colour, hence the name. Eventually the diseased areas extend and the rest of the leaf area becomes chlorotic and the leaf falls.

The spores can be easily transported by any mechanical means, or simply blown on the wind. They can also remain viable under extreme conditions. (It has been known for cereal rusts to be blown over thousands of kilometres of ocean).

**Affect on plant.** As the disease progresses it weakens the plant which attempts to isolate the disease by shedding leaves further reducing the plant's strength. Flowering is very poor or not at all and eventually the plant will be killed.

**Control.** House hygiene is of utmost importance. Remove and burn any fallen or dead leaves to reduce possible sources of infection or re-infection.

While various references give either no chemical control or some copper-type fungicide, the Department of Primary Industries have recommended a systemic-type fungicide, Oxycarboxin, which is registered in all States for use on several horticultural crops.

The chemical is available under the trade name Plantvax, and is an ICI product, in a 500g tin. It is a wettable powder which is used at a rate of 1.3 gm/l sprayed on until it runs off on ornamentals for which it is registered. The AOS Handbook recommends a rate of approximately six times this for orchids.

## References:

- Private communication from DPI.
- AOS Handbook on Pests and Diseases 1975 Edition.
- Rebecca Tyson Northern. *Home Orchid Growing* 3rd Edition.

# Society News

## Scientists Need Back Copies

Mr Len Lawler, chairman of the AOF Scientific Committee, and Dr P.S. Lavarack, are in need of some back copies of *Australian Orchid Review*. If you have any of the copies listed below for sale or donation please communicate with Mr L. Lawler, Department of Biochemistry, University of Sydney, NSW 2006.

Required: Volume 1 Nos. 2 and 3. Volume 2, Nos. 1 and 4. Volume 3, Nos. 2, 3 and 4. Volume 4, all. Volume 5, 1, 2 and 3. Volume 6, Nos. 3 and 4. Volume 7, No. 4. Volume 8, No. 3. Volume 18, No. 2. Volume 19, Nos. 3 and 4. Also indexes Volumes 1 to 13. Also a copy of *Proceedings 3rd Australian Orchid Conference*.

Both gentlemen are actively engaged in orchid research and references in above copies will help them.

## Australian Orchid Stamps

Australia Post is proceeding with the production of four orchid stamps. These will be launched during the "Orchids Australia '86" Conference in Adelaide. First-day covers will be available as part of a special commemorative pack.

The selected native species are: *Caleana major*, *Dendrobium nindii*, *Elythranthera emarginata*, *Thelymitra variegata*. Each of these has very attractive flowers and it will be interesting to see how the designers treat them.

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It is hoped to publish advance information on the issue in the June AOR.

## Society News

The Townsville Orchid Society will stage its North Queensland Champion Autumn Show at the City Administration Building, Townsville on March 21, 22 and 23, 1986.

Ray Nichols, our Show Committee chairman, would like this Autumn Show to be a big event as so many beautiful hardcane dendrobiums are in flower at this time of the year, with a total of 57 classes for this event. Grand Champion will receive \$100, Reserve Champion \$50, Champion Specimen \$20 and Section Champions \$20.

The Townsville Orchid Society monthly meetings are held every fourth Friday of each month, commencing at 8 pm in the Townsville Orchid Society Hall, Pioneer Park. Visitors most welcome.

## Glasshouse Temperature Control

At the January meeting of the Orchid Society of NSW Mr Sid Batchelor demonstrated a system he is using for temperature control in his glasshouse.

The equipment is designed for use in the average-size glasshouse and is quite uncomplicated and easy to install.

The equipment is just coming onto the market under the brand name "Envirotrol".

The simplicity of the "Envirotrol" makes it ideal for use by anyone with a small to medium-size glasshouse.

To date there has been no detailed article in this journal on automatic controls. A review of available equipment is planned.

## Mr Lou Sasso, OAM

Congratulations Lou on your well-deserved honour, the Order of Australia Medal. Announcement of the award in the Australia Day honours was a pleasant surprise for all



# Society News

who know Lou Sasso. A surprise too for all who do not know Lou but can recognise it as a recognition of the importance of orchid growing in Australia.

Lou Sasso has been growing orchids superbly well for 43 years. He has served two full terms as president of the Orchid Society of NSW. Also terms as president of Eastwood Orchid Society and North Shore Orchid Society.

He was one of the pioneers in the orchid export industry, and for many years his huge orchid collection would have been one of the top ones in Australia.

Until a few years ago Lou won "Best Orchid Display" consistently at Orchid Society of NSW shows. He has a deft touch for harmoniously arranging a huge number of plants in many genera into an aesthetic composition. It is doubtful if any grower anywhere in the world has won more gold medals.

Lou was never content with only showing locally. He sent flowers all over the world and received medals and certificates from the USA, Thailand, Switzerland, Germany and Austria.

Societies in many countries have invited him to judge and he has done so at Bangkok, Zurich, Penang, Honolulu, Frankfurt, London and Los Angeles. His last overseas judging was at Krefeld in Germany eighteen months ago, and he still judges at local meetings.

Lou regards his best achievement to be the winning of the Sydney Morning Herald Trophy at the World Orchid Conference held in Sydney during September 1969. This was a truly beautiful display of his own plants, larger in size than most displays by societies.

Thanks Lou — you have made Australian orchids known overseas, and have helped many people everywhere to enjoy orchids. It is nice to know your work has been officially recognised.

## Melbourne Eastern's Unique Aussie

Last spring in Melbourne Aussie dendrobiums adorned themselves in finery such as never seen before. And lo, Bob McHutchison's *Dendrobium delicatum* stood out from all the rest. Thousands of delicate pink flowers hid the foliage of this lovely plant. Proud owner Bob McHutchison, honorary secretary of MEOS, was almost overpowered by the impact of winning Champion of the Show, the AOC Medallion and a Cultural Certificate.

Bob got Frank Slattery to part with this treasure ten years ago, but it was then a lowly seedling.

The MEOS World of Orchids Show held at the Mechanics Hall, Oakleigh, attracted masses of *Dendrobium speciosum* which even outshone the exotics.

Improved lighting over last year displayed orchids in the twelve individual stands, plus a twelve metre-long members' stand, at their best. The large hall and effective layout provided ample room for the huge spectator crowd.

Treasurer Jim Arthur won the President's Trophy for the Best Display with a big showing of mixed genera, receiving an Award of Distinction for his small plant of *Cymbidium* Jubilation. Mr Bob Hodgins' *C. Jubilation* 'Geronimo', FCC was Best *Cymbidium*.

For his long record of service to the society Mr Stan Rowland was presented with his life membership certificate.

## Converted?

Last November the local branch of the Society for Growing Australian Plants joined with the Gladstone OS to hear a talk on propagation by the Fisher family of Fishers Native Plant Nursery. Phyl, Neil and Shirley Fisher put on a show to please all gardeners. Highlight was a slide show by Neil — "Gardens at the World Garden Expo,

# Society News

1984". The Expo took place at Liverpool, England.

We hope a few of those SGAP folk were converted to orchids.

## Portal of Doom

Dr F.M. Dourado writes, in the 18th Annual Orchid Show Programme, of two high valleys near the Thai-Malaya border once rich in orchids:—

"A rickety wooden bridge constructed by tin miners years ago, over the river in the cave, was the only access to Kampong Wan Tangga and Kampong Kelian further north. At the entrance to the cave over the bridge, an inscription should be erected to read as follows:—

*Through these portals have passed in a one-way traffic, never to return, the fairest, the most exotic, and the most beautiful orchid plants of the Habenaria and Eria tribes, pillaged and pilfered from their natural habitat by man."*

## Great Projects by OSSV

The Orchid Species Society of Victoria has commenced two new exciting ventures in early 1986 at the Nunawading Horticultural Centre, where the society is presently based. A permanent collection of representative orchid species is being established to encourage conservation, appreciation and propagation. Included in the collection will be Australian orchids, exotics, common, rare, endangered species, plants of botanical and historical significance, and examples of orchids which once grew at the site. The supply of species orchids is now dwindling, and this collection will foster propagation from seed and by division, and become an important reference source for Australian species orchid growers.

The society will also operate a quarantine glasshouse at the centre. Species orchids quarantined here will become available for use of the society and individual

members, and will also be selected for inclusion in the OSSV collection.

## OSSV Spring Show

The Annual Orchid Species Society of Victoria Spring Show was held on September 7 and 8 at the Nunawading Horticultural Centre. More than 1,600 visitors enjoyed an exceptionally fine Melbourne spring weekend, a large display of orchids arranged according to themes, and a series of talks on growing of species orchids. The major themes of display were Australian epiphytes, miniature orchids, lithophytes, orchids for colour, orchids of the world and pleiones. Outstanding orchids of the show were a bright yellow-flowered specimen of *Dendrobium speciosum* grown by Mr and Mrs R. Garland, and a specimen pot of *Pterostylis curta* — Warrandyte form, grown by Mrs O. Adams. Funds raised from the show were contributed towards the costs of the society's species collection project.

Peter Adams 12/11/85

## Happenings at Parramatta

Parramatta OS seems to be a society where everything goes like clockwork. The fact that Mr Graeme Banks has been secretary for around twenty years undoubtedly has something to do with it. Which is why the society unanimously voted to make him a life member at the November 1985 meeting. Graeme is also now the NSW Registrar of Judges. With his son David, Graeme greatly expanded his nursery last year and would now have one of the leading paphiopedilum and native orchid nurseries around.

With the November issue Mr K. Steele relinquished the task of editing the *Parramatta OS News*. Mr Steele has done a very good job over a period of about four years and the society's bulletin would rank as one of the best around. The new editor is Mrs Jill Marden.



# Society News

## Editor's Rant and Rave

Not this AOR editor, but Dean Shannon of Ringwood OS who used this title to good effect on page two of the society's *Newsletter* for about fifty issues. The *Ringwood OS Newsletter* has proved a very effective medium for keeping members informed, and providing cultural information. Mr Shannon has done a good job. This year Mr Peter Rushbrook has taken over the ranting and raving.

Ringwood OS meets at Maroondah High Community Centre on the first Tuesday of the month. Mr Lee Duffield is the secretary and may be contacted on (03) 874 7830.

## Photo History

Newcastle OS is putting together a photographic album of the society's shows and has appealed to members for early show shots. That's a good idea for other societies to follow, and not just with show shots. An historical record like that could be kept in the library and loaned out. New members would see how good the society was in the past; old members could relive some of the great occasions. A handy reference too for display designers. Just as interesting but easier to take in than a written history.

## Say That Again!

"One house was for ferns, another for cymbidiums, and the others for orchids." A quote from a story by dastardly "Dick Dendrobe" in we won't say which society bulletin.

## Surprise in AOC Slide Programme

By way of introduction to a brand new slide programme on softcanes from the Australian Orchid Council slide library Mr Colin Hamilton of the Rockhampton OS presented a short talk on the historical background of softcane dendrobiums and their breeding advances.

To everyone's surprise the majority of the slides were of modern Australian hybrids. Only twelve were Japanese hybrids.

Mr Hamilton thinks that many of the Australian clones are very beautiful but are comparatively unknown because they are closely held and not mass propagated for the commercial market. His advice is "watch out for some".

## Stanhopea Cultural Success

Top stanhopea grower, Barney Greer, reported in the *Manly-Warringah OS Bulletin*: After trying various composts in stanhopea baskets it seems that York Meredith's idea — using seedling-size fir bark alone — is just about ideal. The plants make strong roots, quickly and happily, in the small bark and the moisture retention seems just right.

## Sweetener from Warringal

Cattleyas, dendrobiums, etc, in one to two centimetre bark and which were not repotted this season, could benefit from a lime bath to sweeten the mix. If you have a pH tester any reading from 6.5 down to about 4.5 will be right. If you do not have one of these gadgets there are only two choices open to you. Either get one or guess. A cup of lime in a bucket of water and submerging the pots for a few minutes each will be all that's necessary, and it will only be needed about once every two years. In between times just give a good flushing out sometime between fertilisings.

Maurie Black in *Warringal OS Bulletin*.

## Tweed OS Autumn Show

Venue: Tweed Mall, Tweed Heads. From Thursday, April 17 to Saturday, April 19. Shop hours to 4 pm Saturday. Fine hardcanes and cattleyas a feature. Secretary: Mr Don Capner, Kiel Vale via Murwillumbah 2484. Phone (066) 72 1375. Meets 3rd Thursday, CWA Rooms, Queen Street, Murwillumbah.

## Society Changes

**Eastern Districts OS.** Meetings and shows will now take place at Wondall Heights State School, Wondall Road, Wynnum West. Meetings are on fourth Thursday of month (except December). Secretary: Mr Bill Robinson, PO Box 60, Wynnum, Central Queensland 4178. Phone (07) 341 5108.

**Gold Coast Orchid Society.** The old meeting hall is being demolished. The society now meets in the Masonic Hall, First Avenue, Burleigh Heads, on the second Sunday of each month at 1.30 pm. Secretary: Mr K.G. Jones, PO Box 323, Burleigh Heads, Queensland 4220.

**Albury-Wodonga OS.** Please note that the address of Mr Geoff Milton, the secretary is 665 Jones Street, Albury, NSW 2640. The society meets on the first Tuesday of month at Wodonga Civic Centre.

**Eastern Suburbs OS.** Secretary for this Sydney society is Mr Barry Collins, PO Box 131, St Pauls, NSW 2031. Meets third Monday, St Luke's Church Hall, Arden and Varna Streets, Waverley.

## Autumn Shows

**Brisbane Orchid Society Charity Show.** Venue: Ira Berk Pty Ltd Motor Showroom, 1332 Logan Road, Mt Gravatt. Saturday April 5 to 6 pm. Sunday 6th to 5 pm. To aid School for Deaf. Secretary: Mrs P. Cotton, PO Box 94, Stone's Corner 4210. Meets 4th Tuesday, Holy Trinity Church, Woolloongabba.

**Eastern Districts OS.** Wondall Heights State School. Saturday and Sunday, March 22/23. Secretary: Mr W.H. Robinson, PO Box 60, Wynnum, Central Queensland 4178. Phone (07) 341 5108.

**Ipswich OS.** Saturday and Sunday, April 5 and 6. Details from secretary: Mrs G. Stumer, PO Mt Crosby. Phone 201 0126.

**Redcliffe OS.** K-Mart Kippa Ring Shopping Centre (upper level). Anzac Avenue, Redcliffe, May 8 to 11. Set up from noon May 7. Secretary: Mr A. Wrigley, PO Box 51, Margate 4019. Phone 284 9172.

**Rockhampton OS.** St Paul's Hall, William Street, Rockhampton. Friday, April 11 to Sunday 13th. Secretary: Mr B. Maxwell, PO Box 5949, Rockhampton Mail Centre 4702. Meets 4th Tuesday, Uniting Church Hall, Musgrave Street.

**The Queensland Orchid Society Autumn Show.** April 11, 12, 13, Mt Coot-tha Botanical Gardens auditorium. Secretary: Mrs Noela Parsons. Phone 273 1127.

## Coming Events

**Orchids Australia '86 and Tenth Australian Conference.** Adelaide, September 17-23. International scale.

**Spring Festival Orchid Spectacular.** Sydney Town Hall, September 21 to 28, 1986. Australia's top orchids.

**Twelfth World Orchid Conference.** Tokyo, Japan. March 17-25, 1987. The world's top orchids.

**Eleventh Annual Congress Cymbidium Society of America.** Saturday, April 12, 1986. Concurrent with 41st Santa Barbara Orchid Show. Famous speakers. All welcome.

## Townsville OS News

TOS is host society this year for the Tropical Queensland Orchid Council Queen's Birthday Weekend Conference. This commences Friday, June 6 and goes through to Monday 9. TQOC Annual Conferences have been enjoyed by northern growers and southern visitors for nearly twenty years. Proceedings cover talks, barbecues, a banquet and visits to collections. TOS members are highly-experienced dispensers of hospitality. Everyone is invited to join the fun. Enquiries to Mr W. Summers, PO Box 663, Hermit Park, Queensland 4812.

## New Secretary for Mornington

Mark Blair is the new secretary of Mornington Peninsula OS, which means he has taken on quite a job because it's a very active society. Mail should be addressed to him at 39 Ninth Avenue, Rosebud, Victoria 3939.

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## IN BRIEF

### Show Preparation

When I first started to enter plants in the various shows, to get the plant ready I would make a bee-line for the white oil, mix up a good strong brew and polish the leaves until I needed sunglasses to go near them. They really gleamed. I eventually realised that I was presenting a most unnatural pot-full of bright green, waxy-looking leaves to the judges. (Today I shudder at what they must have thought of it). Then I used a much weaker solution of white oil, which was better for both the plant and its looks. Now I use ordinary cow's milk which, when wiped over the leaves with a soft cloth, produces a clean plant with leaves which look natural. And this is the effect that I want. Try it — I think you'll agree.

*D. Davies in Newcastle OS Bulletin.*

### Fertilizing of Orchid Plants

It is well to remember that feeding is not a panacea for the many ills from which orchid plants may suffer. It will not correct poor compost, wrong watering practises, wrong shading, or stagnant air. Any deficiencies in these respects should be corrected first.

There are many good preparations, both organic and inorganic, on the market. To recommend any one over the others would serve no useful purpose. REMEMBER the information on the packet is useless unless we read it.

Solid fertilizers such as bone meal, hoof and horn meal, etc, remain in the pot for a considerable time and no new application should be given until the preceding one has been used up. This usually means an interval of about three months. The likes of manure and meal have a tendency to clog the pot, and break down the potting material very quickly.

Liquid fertilizers will be much more quickly absorbed by the plants and the remainder will be flushed out of the pots.

Therefore, they can be applied more frequently, an application once a week or fortnight.

Plants not in active growth should not be fed, as little is gained and much can be lost by upsetting their natural rest period.

*OS of Nor-West Tasmania Bulletin.*

### Fibre Block Culture

With the increased popularity of growing orchids on blocks of man-fern fibre it is important to bear in mind that the blocks are watered from all sides.

It often happens that blocks are placed near a wall or in such a position that they receive their water either from a hose or from rain, and from one direction only. This leads to a situation where one side of the block is constantly accepting water and another where water is constantly evaporating. In the latter case, a salt build-up occurs, which renders the block useless and eventually endangering the life of the plant.

## A NOTE TO ALL SUBSCRIBERS.

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The effect can readily be seen by examining any block on which orchids are grown, and examining at the sides opposite where water is commonly applied for a whitish build-up of mineral material.

This is the danger signal.

The prevention is simple, blocks should be always placed in a position so that they can be watered from various angles, when watered with a hose the direction should be changed from time to time. When this is done no salt build-up occurs and blocks remain useful for many years.

*Orchid Society of NW Tasmania.*

### Coelogyne Hybrids

The first hybrid of *Coelogyne* was registered as early as 1906. Brymer crossed *Coel. asperata* with *Coel. dayana* and named the hybrid *Coel. Brymeriana*. Between 1906 and 1923, seven other hybrids were produced, but since then, with the exception of a single additional hybrid, *Coel. lawrenceana* x *Coel. mooreana* registered in 1950 as *Coel. Mem. W. Micholitz* there has been virtually no activity in hybridisation in this group. The limited hybridisation with coelogyne perhaps reflects the lack of popularity of this group. With the diversity existent among the 150 or more species, many of which can be considered of horticultural value, it is somewhat surprising that the coelogyne have not become more widely known and cultivated. Perhaps their sparse flowering habit in warm climates may be a factor. A hybridisation programme, however, could overcome this problem and bring about additional improvement, as has been demonstrated in other groups of orchids.

*Boolaroo OS Bulletin.*

### Tasmanian Regional Conference

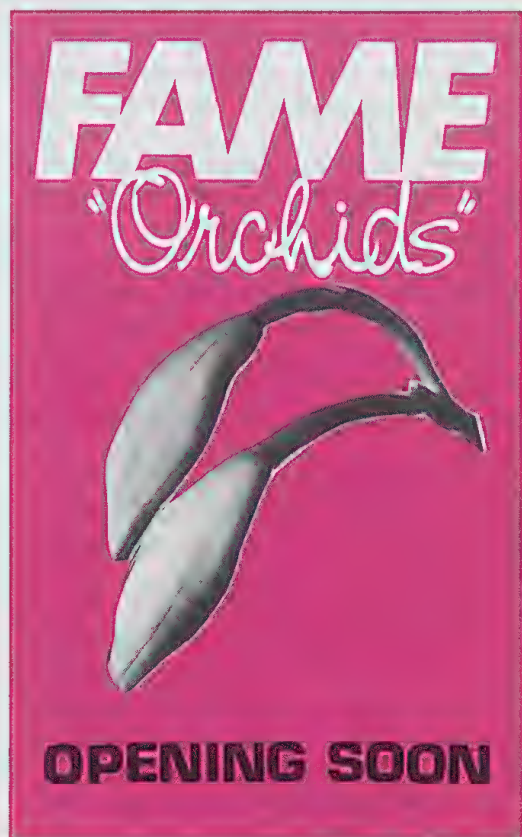
The Tasmanian Orchid Society was the first to organise a regional conference in Australia. This was many years ago which means they have a lot of experience. Venue rotates between the societies. Last year it was the turn of the TOS to put on a show in Hobart.

Conference papers covered pesticides,

virus and trends in minicymys, the latter by David Cannon of Nindethana Orchids. John Woodward showed slides of his trip around the nurseries of England and America. *Cymbidium*s were covered by Bob Hodgins who runs Australia's oldest orchid nursery. He was recently granted a FCC for his *Cymbidium* Jubilation 'Geronimo'.

The Launceston, Devonport and Scottsdale Societies contributed large displays, with Devonport the winner. Species were prominent. These included a specimen-size plant of *Sarcochilus falcatus* covered with glistening white flowers. A plant of *Cymbidium devonianum* with four pendulous spikes and "white-eyed" flowers attracted a lot of attention. Another to stand out was *Dendrobium Yukidarama* 'The King' shown by Jan Oostong of Devonport. Gwen Smith won the Champion Floral Art.

A banquet was held on the Saturday night, and nursery and sight-seeing took place on Sunday.





# AOF-Sponsored Rare Species Flasks

This new list of Australian Orchid Foundation-sponsored rare and endangered species comprises ones which can no longer be imported, nor are they being artificially propagated in their native countries.

They are very beautiful orchid species and are recognised as such by their use in orchid hybridising.

Each flask contains twelve seedlings, and is of glass with air breather. Delivery is by Skyroads and costs \$8.50 for up to 10 flasks.

The capitals after most descriptions below refers to The Manual of Cultivated Orchid Species, found in most society libraries, followed by the page number on which a coloured illustration appears.

For other available flasks refer to recent AORs or ask for list from Ian and Pat Walters, address below.

*Aerides krabiense*. From the Gulf of Kra, Thailand. Dwarf species with cupped crystalline pink flowers.

*Angraecum sesquipedale*. Madagascar. Waxy 12 cm cream white flowers with a graceful long spur. Sesquipedale means 'foot and a half' and refers to the spur. See MCOS page 167.

*Aerides odoratum*. Seed from two alba forms. India and Burma, also Philippines. Clear waxy white with green spur. Very fragrant. See MCOS page 164.

*Dendrobium bracteosum* 'Album' selfed. New Guinea. Waxy white clusters, lip yellow-orange. This species has wide colour range, all beautiful, and the lip indicates it is not a true album. For pink form see MCOS page 194.

*Dendrobium formosum* var. *giganteum*. India. Huge white flowers to 12 cm across with yellow lip and throat. Long-lived flowers. See MCOS page 197.

*Menadenium labiosum* (syn. *Zygotatum rostratum*). Brazil. A small-growing species, rare even in cultivation. A large flower with segments a green-yellow suffused with pink. Lip is white with prominent violet or dark red callus and veins.

*Vandopsis parishii*. India. A dwarf grower with wide thick leaves and spikes of

waxy, heavy-textured flowers, segments pale yellow-green blotched red brown. Highly fragrant. See MCOS page 279.

*Laelia sincorana* (syn. *Laelia pumila*). Brazil. Small-growing plant with flowers up to 10 cm wide, rose purple with striking darker lip. See MCOS page 220.

Orders for these AOF endangered species flasks should be sent to Ian and Pat Walters, 1419 Ross River Road, Kelso, Townsville, Queensland 4810. Do not send money until invoiced. The profit on these flasks goes to Australian Orchid Foundation funds. Each flask is \$12.00 plus \$8.50 delivery by Skyroads for up to ten flasks.

## AOF Research

A preliminary report by Dr N. Marinos of Flinders University, South Australia, indicates that some progress has been made in experiments to produce mericlone proliferation with paphiopedilums.

The object has been to test a variety of conditions that may promote plantlet proliferation. In preliminary screening 256 combinations of key media ingredients were tried out, and of these 18 were found to be promising. These involved varying levels of auxin, cytokinin, minerals, vitamins, amino acids and sucrose. It was found that mineral elements were best supplied at a medium level of concentration.

With mericlones best results were obtained with stationary cultures in light. Total mericlones started: 288 and of these 218 survived, of which 105 produced one or more secondary plantlets.

In the four best treatments the average was 5.5 plantlets per mericlone, with some replicates producing up to 14 plantlets.

The common feature of these four treatments were: zero or low level of auxin, and a medium level of growth factors plus sucrose.

The next step is to attempt a further improvement of the media and to subculture the already proliferating cultures.

This research is one of the many which the AOF has helped finance in order to assist hobby growing of orchids.

# AROUND & ABOUT

## Eastwood's Big Charity Effort

Eastwood Orchid Society has used its Spring Show each year to raise money for the Epping-Eastwood Lions Club. The latter distributes the money to local charities. Last spring the sum raised was a record \$11,000. In fact a bit over.

Now local bodies such as the Chamber of Commerce are keen to promote the Spring Show into a major event. Eastwood OS can be proud.

## Spring Show and Regional Conference

Situated in the scenic Yarra Valley and surrounded by towering mountains, the Warburton Civic Centre was the venue for the Yarra Valley Orchid Society's highly-successful show and conference.

The Champion Orchid was a magnificent plant of *Den. Yukidaruma* 'The King' benched by Bert Cusack.

Clive Halls of Mt Beenak Orchids featured a mass of *Cymbidium devonianum* hybrids in his exhibit, which would have received "rave" reviews in any city show.

Ray Thomson of Mooroolbark Ferns and Orchids took first prize for Australian Native Terrestrials with a plant of *Diuris punctata*. I thought this most fitting, as this species is the society's emblem and is featured on their badge.

A highly-commended exhibit by Norm Collins of Gladysdale comprised no less than 120 plants of the genus *Pleione*, perfectly flowered and arranged in an almost vertical frame.

The large number and high quality of plants benched augurs well for the future of this young society and its 120 members.

Ron Aumann and his hard-working committee are to be highly congratulated on all aspects of the show. The lectures were highly informative, being held in a large auditorium adjacent to the orchid show. The barbecue and banquet featured

locally-produced beef (two hind quarters) and copious amounts of local wines, while the hospitality and friendliness shown to all visitors would have to be experienced to be believed.

Keith Bennett

## Morisset and Lakes OS Active

The 1985 show season proved very busy and a successful time for the members of Morisset and Lakes Districts Orchid Society. As well as conducting their own Winter and Spring Shows, they competed in the Autumn, Winter and Spring Shows of the Combined Newcastle Orchid Societies. It was here that they were most successful, on each occasion winning best display and gaining sufficient class and championship points to retain the Harry Bond Memorial Trophy. This prize is awarded annually to the most successful orchid society competing in the three combined shows.

The society also undertook promotional activities by again participating in the "Exotic Plants Expo" held at Wyong Community Hall. Here orchids combine with cacti and succulents, bromeliads, bonsai and African violets, each specialist society mounts an individual display with a sales and information table. The event is proving so popular that a larger site has been found to house the extra groups wishing to participate in Expo '86. Events of this nature are very productive in that most of the visitors have a general horticultural interest, allowing more meaningful advice to be given. It is also a very good source of new members.

After a few week's well-earned rest in early October (spent doing all those that should have been attended to in the orchid house), most members mustered a bit more enthusiasm to compete in the Gosford Regional Orchid Conference Show.

A very hectic yet enjoyable time.

Brian Jacob



# Those Magnificent Paphiopedilum Primary Hybrids

by John Woolf



*Paphiopedilum Maudiae* 'The Queen'  
A primary hybrid from *P. callosum* and  
*P. lawrenceanum*.

Many years ago I became very interested in orchid species, and, over the years acquired many different genera. Like most orchid species growers I found myself being drawn to the majestic shapes and colour combinations of the paphiopedilum species. *Paphiopedilum rothschildianum* — majestic, *P. fairieanum* — exquisite, *P. callosum* — regal, to mention but a few.

My interest in primary hybrids began when visiting a Brisbane Orchid Society Charity Orchid Show in Brisbane and saw a

truly superb *Paphiopedilum Transvaal*. *P. Transvaal* (*chamberlainianum* x *rothschildianum*), has a very large green dorsal with dark stripes and twisted, spotted green petals flushed with pink. Other similar crosses are *P. Vanguard* (*glaucophyllum* x *rothschildianum*) and *P. (chamberlainianum* x *roebelinii*), all combining two multi-flowering species to produce superb long-lasting large flowers.

Other parents producing excellent progeny including the species *P. parishii*,

*philipinense*, *callosum*, *fairieanum* and *bellatulum*. Some of the resulting seedlings are:—

*P. Umatilla* (*parishii* x *philipinense*). Lovely green dorsal, petals beginning in green and turning to almost black towards the tip.

*P. (callosum* x *roebelinii*). Excellent white dorsal, stripes and flushed with purple, glistening wine-purple petals.

*P. Iona* (*fairieanum* x *bellatulum*). Cream background — flushed pink with burgundy spotting in lines.

*P. Maudiae* (*callosum* x *lawrenceanum*). Depending on whether the normal, dark or alba forms are used, will determine the colour of the seedlings:—

*P. Maudiae* 'Magnificum' — white-green stripes.

*P. Maudiae* 'The King' — white-red stripes.

*P. Maudiae* 'Coloratum' — reddish-white — dark purple stripes.

*P. Delrosi* (*rothschildianum* x *delenatii*). Up to three beautiful light to rose-pink flowers.

These are but a few of the tremendous variety of shapes and colour combinations to be found amongst the primary paphiopedilums, each with their own special appeal.

The culture of these slippers depends, in some instances, on one or both parents, while at other times they have no effect, eg *P. delenatii*, slow growing and small in growth, two light pink flowers, crossed with *P. chamberlainianum*, very large growing, up to five flowers, green dorsal, pink tips on petals. This makes *P. Dellainia*, medium-sized growth robust, up to five rose-pink flowers. *P. chamberlainianum* has added to the number of flowers, and the colour is practically all *P. delenatii*.

Most crosses with *P. rothschildianum* as one parent are large robust, light and warmth-loving and slow to flower.

Those with *P. delenatii* as one parent are normally easy growing and easy early flowering, and will flower in bright or shady conditions.

However they all require the following:—

(a) Good air movement.

(b) 50 per cent to 70 per cent shade.

(c) Open, well-draining compost.

(d) Light fertilising (*P. rothschildianum* and its hybrids a little extra).

(e) Regular watering programme.

Compost may consist of:—

Six parts chopped radiata bark.

One part charcoal fine.

One part peanut shell (shredded).

One part tan bark (hard to get, can be left out).

Two-gallon bucket = one part.

Add to this one cup of Dolomite, one cup of hoof and horn (or blood and bone).

This should be left to cure for six to eight weeks. Plants in this mix should be watered every second day in warm weather. If you don't want to water as often one part of peat moss may be added.

Most paphiopedilum primary hybrids were made from 1869 to 1900 and then forgotten for many years, eg *P. Maudiae* registered 1900; *P. Bingenense* registered 1899; *P. Actaeus* registered 1895; *P. Harrisonianum* registered 1869; *P. Leeannum* registered 1888. Now, these exquisite orchids are again becoming popular.

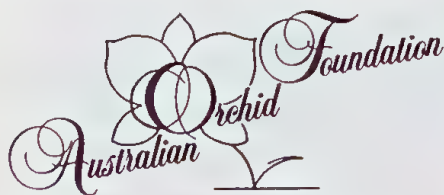
Maybe, one day, you will buy some paphiopedilum primary hybrids and get as much enjoyment growing them as I do.

My ten favourites.

1. *P. Roth-Maud* (*Maudiae* x *rothschildianum*).
2. *P. Umatilla* (*parishii* x *philipinense*).
3. *P. Delrosi* (*delenatii* x *rothschildianum*).
4. *P. Transvaal* (*rothschildianum* x *chamberlainianum*).
5. *P. Iona* (*fairieanum* x *bellatulum*).
6. *P. Daisy Barclay* (*rothschildianum* x *godefroyae*).
7. *P. Bengal Lancers* (*haynaldianum* x *parishii*).
8. *P. Vanda M. Pearman* (*bellatulum* x *delenatii*).
9. *P. Makuli* (*Maudiae* x *sukhakulii*).
10. *P. St. Swithen* (*rothschildianum* x *philipinense*).

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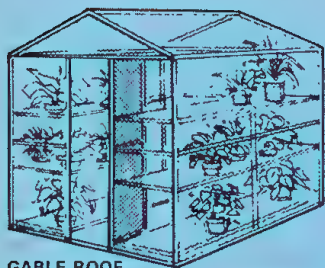
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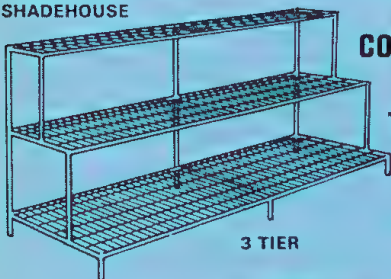
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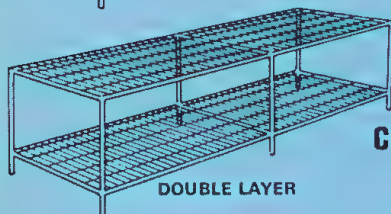




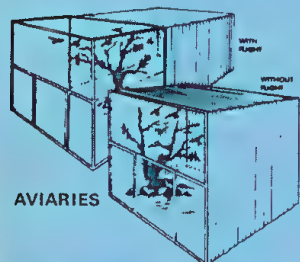
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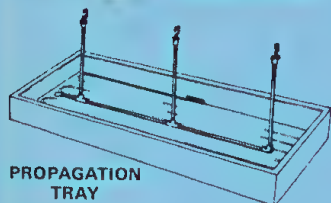
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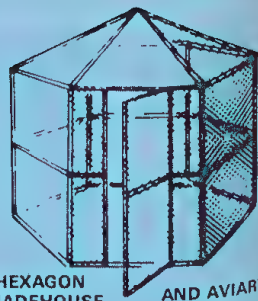
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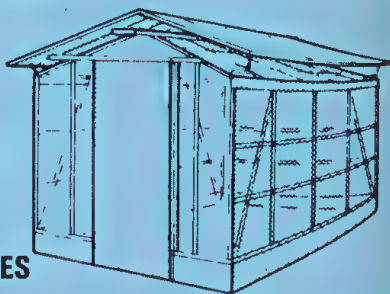
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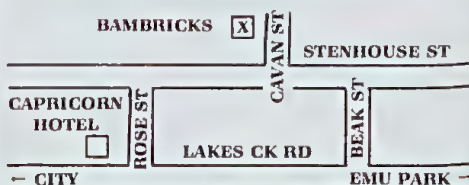


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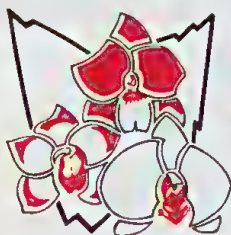
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MS. 701 SLC. ORIENT AMBER 'FLORIDA' — orange/red lip. .... 2" and 3" pots  
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MS. 973 BLC. FAYE MIYAMOTO 'GOLD COIN' — gold/red lip ..... 2" and 3" pots  
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MS.1257 BLC. GREENWICH 'FROZEN DAIQUIRI' — large green. .... 3" pots  
MS.1303 EPC. VOILA 'SUSAN', AM/HOS — rose purple ..... 2", 3" and 4½" pots  
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'CARMELLA' — dark strawberry blooms ..... 4½", 5½" and 7" deep pots  
MS.1341 ASCDA. PEGGY FOO 'NODA' — reddish-pink, good shape. .... 5½" pots  
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'ORCHIDGLADE', AM/AOS — yellow and red ..... 2" pots  
MS.1462 LC. GLADYS SANCHEZ 'ALII', AM/AOS ..... 3" pots  
MS.1466 ASCDA. HAWAIIAN DELIGHT 'SILVA', AM/AOS ..... 2" and 4½" pots  
MS.1490 BLC. PAMELLA FARRELL 'FONG YUEN' — purple. .... 2" and 3" pots  
MS.1656 DEN. JAQUELYN THOMAS 'UNIWI SUPREME' — lavender ..... 2" pots  
MS.1717 ONC. GOWER RAMSAY 'JUNGLE QUEEN' — yellows. .... 2" pots  
MS.1792 LC. ROYAL EMPEROR 'CHRIS' — lavender/purple ..... 2" pots

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Lc. Drumbeat 'Triumph' x C. Mary Ann Barnett 'Exquisita'

Blc. Bryce Canyon 'Splendiferous' x Lc. Amberglow 'Mid Florida'

C. (harrisoniae x Suavior) x C. Tiffin Bells 'Orchidglade'

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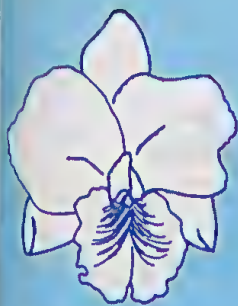
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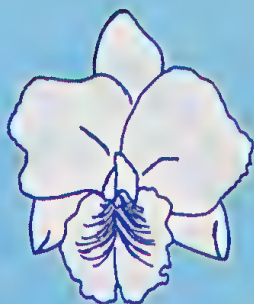
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## *OR HER OFFSPRING? — approximately 12 seedlings*

Slc. Hazel Boyd 'Red Delicious' x Slc. Tropic Dawn 'Fireflame'  
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Slc. Ginny Champion 'Orange Bouquet' x Slc. Hazel Boyd 'Red Heart'  
Slc. Hazel Boyd 'Royal Scarlet' x C. Interglossa 'Blumen Insel'  
Slc. Hazel Boyd 'House of Orange' x Sl. Psyche 'Prolific'

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Lc. Lisa Ann 'Copper Empress' x Blc. Oconee 'Mendenhall'  
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Pot. Faye Janetta x Slc. Rosemary Clooney 'Nanae'  
Bc. Donna Kimura 'Asa' x C. Earl 'Imperialis'  
Plus many other catts, both warm and cool.



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Den. Oriental Paradise No. 18 x Golden Blossom 'Sunset' — softcane  
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Den. kingianum Pink x falcorostrum      Den. kingianum Red Lip x tetragonum 'Coffs'

## *PHALS TOO — 8-10 plants*

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## ASCOCENDA:

	Size
Ascda. Buddy Choo x Ascda. Duang Porn — yellows.....	B C
V. Lenavat x (V. Joan Rothsand x Ascda. Medasand) — pink.....	B C
V. Eisenhower x Ascda. Seechang — yellow-spotted red .....	B C
Ascda. Phairot 'Yellow' x Ram Indra — yellow.....	B C
Ascda. Baucis (V. Jos. van Brero x Ascda. Honour First) .....	B C

## DENDROBIUM:

D. carroni x johannis — miniature chocolate blooms (blooming size) .....	A B
D. Gloucester Sands (canaliculatum x johannis) — blooming size.....	B
D. affine SM/10 WOC x Doreen — long, white and bi-colour sprays .....	B C
D. Alwyn Hill x (carroni x johannis) — spectacular miniature .....	A B
D. Debbie Macfarlane x tetragonum — multi-colour antelopes .....	A B
D. Hepa x Paradise Maid — superb bi-colours .....	A B

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(Lc. Cape Sable x Catherine Paterson) x C. Esbetts — white, red lip.....	B = \$6
Blc. Malworth x Blc. Bryce Canyon 'Splendiferous' — yellow to plum.....	A = \$3
Blc. Malworth x Slc. Kauai Starbright — petite yellows.....	A B

## RENANTHERA (MINIATURE):

Twin Star x Poipu — brilliant red sprays.....	B C
---	-----

## VANDA:

V. Thananchai 'Yellow' x Seeprai — pale yellows .....	B C
V. Aurawan x Pong Thong — mustard yellows.....	B C
V. Filipino x Bhimayotin — exhibition pink/red .....	B C
V. Emma van Deventer x Rose Davis — blue semi-terete.....	B C
V. Jos. van Brero x Miss Thailand — pink/apricot .....	B C

SIZE A IN PLANTS — \$3.00, B — \$6.00, C — \$10.00 UNLESS OTHERWISE STATED.

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You may order one dozen phalaenathe dendrobiums to bloom autumn 1985 for \$107 which includes Skyroad delivery to most parts of Australia. Plants may also be sent in pot by rail, at cost.



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	<i>Very full petalled, rich, glowing orange.</i>	
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	<i>Expect mini oranges without spots or bars.</i>	

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	<i>Magnificent yellow with full red lip.</i>
Slc. Mae Hawkins 'Waianae'.....	NFS \$65.00
	<i>Outstanding burnt orange contrasting red lip.</i>
Blc. Gorgeous Gold 'Pokai'.....	NFS \$65.00
	<i>Vibrant gold with fabulous red lip.</i>

### SEEDLINGS

Blc. Toshie Aoki 'Waianae' x C. intermedia 'aquinii'.....	NFS \$25.00
	<i>Possibly splash, good-shaped yellows.</i>
Blc. Malworth 'Orchidglade' x Blc. Waianae Queen.....	NFS \$25.00
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# ORCHIDS AUSTRALIA '86

## ADELAIDE, SOUTH AUSTRALIA

**SEPTEMBER 17-23, 1986**

### PROGRAMME

#### MONDAY — SEPTEMBER 15

Pre-conference Tour, September 15-17 — by bus to Cape Jervois through the Southern Vales vineyards and coast road to board ferry for Kangaroo Island: in the afternoon, visit historic sights, folk museum and see the eucalyptus oil stills.

#### TUESDAY — SEPTEMBER 16

Pre-conference Tour continues to join a local enthusiast to view native terrestrial orchids in the scrub. South Coast Orchid Club meeting (Christies Beach).

#### WEDNESDAY — SEPTEMBER 17

Pre-conference Tour continues to Seal Bay to view the large colony of seals there at close quarters — Kelly's Hill Caves — lunch with the fauna in Flinders Chase — the remarkable rocks and return to Kingscote for return flight that evening. Includes all meals and transport costs.

**PRICE \$300.**

Registration and Hospitality Desk. (Hotel Adelaide).

Show Set-up lunch provided (Showgrounds).

Orchidaceous Society Club meeting (Adelaide).

#### THURSDAY — SEPTEMBER 18

Judges' Breakfast (Showgrounds).

Registration and Hospitality Desk (Hotel Adelaide).

Show Judging (Showground).

Cleland Park and Hahndorf Tour — Full-day tour. Meet some Australian native animals before taking lunch at the Old Mill at Hahndorf — view the sight of the first German settlement in Australia and enjoy visiting the many craft shops.

**PRICE \$25.**

Orchid Stamp Dedication Ceremony, Lectures and Forum conducted by the Orchid Stamp Club. International (Hotel Adelaide).

**PRICE \$5.**

Registrants' Preview (Showgrounds).

Official Opening Dinner (Showgrounds).

#### FRIDAY — SEPTEMBER 19

Photographic Preview of Show (Showgrounds).

Lecture Session. Light lunch and dinner available (Hotel Adelaide).

**LUNCH \$10. DINNER \$18.**

Show open to the public (Showgrounds).

City Sights — see the garden city nestling between the Mount Lofty Ranges and St. Vincent Gulf — afternoon tea at historic Carrick Hill mansion with its collection of antique furniture and French impressionist paintings.

**PRICE \$12.**

#### SATURDAY — SEPTEMBER 20

Photographic Preview of Show (Showgrounds).

Orchid Judging Worldwide (AMF).

Orchid Growing and Hybridising Worldwide (AMF).

**RETURN TRANSPORT \$4. LUNCH \$4.**

Grand Banquet (Hotel Adelaide).

#### SUNDAY — SEPTEMBER 21

Northern Orchid Nurseries and Barossa Valley Tour — Johnston's Orchids and Nesbitt's Native Orchid Nursery — lunch at Seppeltsfield Winery before returning through the picturesque Barossa Valley and Adelaide Hills.

**PRICE \$27.50.**

Native Orchid Walkabout — your hosts are the Native Orchid Society of SA. Mini bus tours to view our

terrestrial orchids in their natural environment — packed lunch will be provided. **PRICE \$20.**

Show open to the public (Showgrounds).  
Home hospitality.

#### MONDAY — SEPTEMBER 22

Southern Orchid Nurseries Tour — visit Adelaide Orchids and Valley Orchids — picnic lunch provided. **PRICE \$27.50.**

Australian Orchid Council Annual Meeting (Hotel Adelaide).

Show open to the public (Showgrounds).

Aussie Night — an informal night of food, fun and frolic at Stonyfell Winery — transport included. **PRICE \$35.**

#### TUESDAY — SEPTEMBER 23

Repeat of Sunday's Northern Orchid Nursery and Winery Tour. **PRICE \$27.50.**

Australian Orchid Council Judging Seminar (AMF).

Show open to the public (Showgrounds).

Seminar on cultivation of Australian terrestrial orchids conducted by the Australian Orchid Foundation (AMF).

**RETURN TRANSPORT \$4. LUNCH \$4.**

Show Take-out.

Native Orchid Society of SA meeting.

#### WEDNESDAY — SEPTEMBER 24

Show Take-out.

Post-conference Tour No. 1 — Alice Springs and Ayers Rock. Fly direct to Ayers Rock — settle into your luxurious motel — in the afternoon tour the base of the monolith or climb to the top if you wish — photograph the sun setting behind the rock.

#### THURSDAY — SEPTEMBER 25

Show Take-out.

Post-conference Tour No. 1 continues — a visit to the Olgas, a unique rock formation then to Palm Valley to see the ancient flora there.

#### FRIDAY — SEPTEMBER 26

Post-conference Tour No. 1 continues — to Alice Springs to view local sights and the old Telegraph Station with perhaps a visit to the casino at night.

#### SATURDAY — SEPTEMBER 27

Post-conference Tour No. 1 concludes — fly to Sydney or return flight to Adelaide or return by coach to Adelaide with a stopover at Coober Pedy to inspect the largest underground opal field in the world.

#### SUNDAY — SEPTEMBER 28

Pre or Post-conference Tour No. 2 — River Murray Cruise leaving Adelaide only on Sundays returning on the following Saturday morning.

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# Australian Orchid Review



WINTER 1986



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NSW 2049. Phone: (02) 560 6166.

Advertising and Subscriptions to Michael Santer, Publications Manager:  
14 McGill Street, Lewisham, NSW 2049. Phone: (02) 560 6166.

SUBSCRIPTIONS: 1986/1987 within Australia \$A37.00, 1986 \$A20.00.

Overseas surface: 1986/1987 \$US37.00, 1986 \$US20.00.

Overseas Air Mail: Asia/Oceania 1986/1987 \$US46.00, 1986 \$US25.00.

Other Countries: 1986/1987 \$US54.00, 1986 \$US30.00.

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Published by

PRINCRAFT PRESS PTY LTD

14 McGill Street, Lewisham 2049. 560 6166

Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA 27936

The publishers of the *Australian Orchid Review* financially support  
the Australian Orchid Council.

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# Australian Orchid Review

VOLUME 51 — No. 2

WINTER 1986

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## COVER STORY

C. Volcanic Flash 'Thunder Ball'. (Mimi 'Mary Bea' × Volcano 'Menuehene'). The cross was registered on December 27, 1985 and is the very first of the cross to flower. The color is intense, the plant is compact and the spike is strong. The flowers are intermediate in size measuring just 69 mm. See the article in this issue titled Cymbidium Kaleidoscope on page 6.

To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in italics. In society bulletins and on place-cards italics can be indicated by underlining.



# Cymbidium Kaleidoscope

R.W. (BOB) NICOLLE

Valley Orchids registered their first cymbidium orchid hybrid in 1972. Since then they have registered nearly 300 cymbidium orchid hybrids. Today Valley Orchids are one of the main producers of new varieties of cymbidiums for pot plant and cut-flower growers around the world.

Colchicine was first used by Valley

Orchids in 1969 to induce tetraploids from diploid stock and the results of second and third-generation tetraploid crosses are now being seen in a whole kaleidoscope of new colours.

The following varieties were among those which flowered for the first time during the 1985 flowering season:

**C. Rotorua 'Hongi', 4N**  
(Ngaire 'Kuringai', 2N × Volcano 'Menuhene', 2N).  
The conversion to tetraploid here has increased the size of the flower and the width of the lip and improved the substance. The delicate yellow margin on the petals and sepals was inherited from Ngaire 'Kuringai' while Volcano 'Menuhene' lengthened the spike to produce a nicely-balanced flower with a spike 30 cm and flowers 95 mm in width.



**C. Valley Zenith 'Cassius', 4N**

(Miretta 'McBean', FCC/RHS, 4N × Zumma Boyd 'Tetra High', 4N, AM/AOS). From two such great parents you would expect outstanding progeny, however, the extremely high quality of the Valley Zenith cross is amazing. Most of the cross have been pure green with bold red-banded labellums. 'Cassius' is unusual because of the light purple brush markings to its petals and sepals.



**Dream Valley 'Sun Goddess'**



**C. Dream Valley 'Colombus'**



**Dream Valley 'Lunar Module'**

These were all produced using Sleeping Dream 'Sun Goddess', 4N.  
All varieties have colour and shading that is new and has great appeal.

This coming season we expect to flower approximately 40,000 new seedlings. A visit to South Australia for ORCHIDS AUSTRALIA '86 incorporating the 10th Australian Orchid Conference and International Orchid Show from September 17-24, 1986 will enable you to see many

superb new varieties in addition to meeting leading orchidologists and hobbyists from all over the world. If you require information on ORCHIDS AUSTRALIA '86, please contact the Conference Secretary, GPO Box 730, Adelaide, South Australia 5001.



# Reichenbachia

## IN MINIATURE

RON CHALMERS

Mr Ron Chalmers is vice-president and compiler of lists of orchid stamps for The Orchid Stamp Club International. The club was founded in Sydney and has over 100 members world-wide. Here he recounts the enterprise of the small South American country of Guyana (215,000 square kilometres and about a million people) which is launching a series of orchid stamps based on the illustrations in *Reichenbachia*, the famous orchid work produced by Frederick Sander.



Henry Frederick Conrad Sander (1847-1920) was a world-renowned importer and grower of orchids. He was as familiar with the world of royalty and millionaires as he was with his orchid nursery staff.

Vast quantities of orchids, many hundreds of crates, were imported each month to Sander's orchid nursery which occupied 1.37 hectares at St Albans just north of London, England.

The imported orchids were classified according to the system established by John Lindley, PhD, secretary of the Horticultural Society and Professor at University College, London. Professor Lindley was born in 1799 and died in 1865. After his death Professor Heinrich Gustav Reichen-

bach took on the mantle of leading world authority on naming and describing newly-discovered orchids.

In 1886 Frederick Sander commenced production of a superb quality work on orchids with illustrations and appropriate botanical descriptions, and details of methods of growing each particular orchid. It was printed in four languages, English, German, French and Latin. Sander decided to name it *Reichenbachia* in deference to Professor Reichenbach. No expense was spared, especially with the artwork.

Four volumes in two series contained a total of 192 reproductions of orchid paintings. The paintings depicted the orchids life size. Several artists contributed but by far

the greatest proportion were painted by Henry George Moon, considered to be the foremost English-flower painter.

The principal means of reproducing coloured illustrations was lithography, literally printing from stone, from the Greek *lithos* a stone and *graphos* to write. The artist first produced a master or "key" drawing on stone; and then up to twenty or more colours might be drawn and printed to fit the master copy. In addition hand-engraved wood blocks were used.

Two editions were produced, the *deluxe* or Imperial Edition limited to 100 copies, and the *Folio* Edition. Each volume weighs

The South American country Guyana is now issuing a full set of the *Reichenbachia* illustrations on postage stamps, the first issue in July 1985. These stamps are beautiful reproductions. They are being issued in sets of sixteen stamps with a total of twelve sets. Some extra stamps have been issued. To name a few: A block of four commemorating Christmas and the New Year 1986, featuring *Saccolabium giganteum* plate 22 Series One. A block of four commemorates the Queen Mother's birthday and features *Odontoglossum rossii* plate 4 Series One, together with three stamps *Chysis bractescens* plate 18 Series



about 20 kg. The Imperial Edition was leather bound and measured 750 x 595 mm. The Folio Edition, although containing the same size illustrations, measured 545 x 405 mm. The first 96 illustrations were issued as Series One, comprising Volumes I and II.

Volume I of 48 plates was published in 1888 and was dedicated to Queen Victoria. Volume II of 48 plates was published in 1890 and was dedicated to the Queen of Prussia.

The second series comprised Volumes III and IV. Volume III of 48 plates was published in 1892 and was dedicated to the Empress of Russia. Volume IV also of 48 plates was published in 1894 and dedicated to the Queen of the Belgians.

One, *Oncidium tricolor* plate 30 Series One, and *Odontoglossum crispum* 'Hrubyanum' plate 29 Series One.

The Mitchell Library, Sydney has copy No. 56 of the Imperial Edition. Although some of the plates have rust stains the beauty and artistry of the illustrations shines through after 100 years.

Purchasing the *Reichenbachia* stamp collection is not confined to the normal collectors of stamps, it has created considerable interest with orchid growers because of its historic connection. Collection of stamps depicting orchids has been of interest to a number of orchid growers in New South Wales for many years. In late 1983 these growers got together and formed



"The Orchid Stamp Club International".  
25 Turriell Point Road, Caringbah 2229

Readers interested in joining The Orchid Stamp Club International should address inquiries to The Secretary at the above address.

## Stamps at Orchids Australia '86

Thursday afternoon, September 18, will be a great occasion for orchid stamp collectors attending Orchids Australia '86. A set of four Australian orchid stamps will be dedicated and special first-day covers will be on sale.

The Orchid Stamp Club International have arranged a programme of talks on orchid stamps. Slides of the first issue of *Reichenbachia* stamps, and others, will be shown. Just one more good reason for attending Orchids International '86.

Stamp enthusiasts who can't attend can get first-day covers at Australia Post philatelic centres.



## Orchid Prints

Christine Stead and Otto Schmidinger are producing a limited edition of 100 colour prints based on the orchid stamp designs. A set will be on display at Orchids Australia '86 and sets may be ordered. At the stamposium on Thursday afternoon, September 18, you may meet the artists.

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# Permanent Species Collection

PETER ADAMS



The Orchid Species Society of Victoria (OSSV) has commenced an exciting new venture in the grounds of the Nunawading Horticultural Centre. A permanent collection of world-wide orchid species is now being assembled; included in the collection will be Australian orchids, exotics, common, rare, endangered species and plants of botanical and historical significance. The supply of species orchids is now dwindling and this collection will foster propagation from seed and by division, and become an important reference source for researchers and growers of species orchids. The collection will be available for inspection and research by orchid enthusiasts who contact the society. It will be assembled in a glasshouse measuring 10 x 3.5 metres named in honour of Mr James N. Rentoul, a senior member of the society and author of several well-known books on orchids. Mr Rentoul has grown and fostered the appreciation of species orchids for more than forty years.

The planning and erection of the collection house was co-ordinated by Mr Geoff Halliday, OSSV treasurer. The project was officially opened by the mayor of Nunawading Cr Bill Coyne on December 7, 1985.

The Orchid Species Society of Victoria was formed in June 1982, and has conducted its regular meetings and displays of orchids at the Horticultural Centre. There are more than 20,000 species throughout the world, and about 600 occur in Australia. In the last ten years, there has been a growing interest in culture of species orchids and societies have been formed in Queensland, New South Wales, Tasmania and Victoria. The society financed this project entirely from its own funds, and regards the collection as a centrepiece to its main objects. They are:

1. To promote understanding, appreciation, propagation and culture of orchid species.
2. To support conservation of orchid species.
3. To foster public education and appreciation of orchid species by provision of displays, shows and educational material.

The society meets on the second Monday of the month at 8 pm in the hall at Nunawading Horticultural Centre.

For details of your local species society, contact your State orchid society. Addresses appear at the front of this edition.



# PROFILE:

## Cecil Park Orchids

OWNERS: JOHN AND MELITA GULBIS  
GROWER: ALAN MERRIMAN

Little did John and Melita Gulbis realise the importance of a gift of a potted orchid some thirty years ago.

For that gift has led to the development of a nursery which today ranks among the largest orchid cut-flower producers in Australia, with sales far in excess of 500,000 blooms locally and internationally.

That birthday gift orchid — a cymbidium actually — was a foundation upon which Cecil Park Orchids was established and developed. Today, the nursery is located on 22 acres on the outskirts of Sydney, where breeding programmes are continuous, with the introduction of new American strains.

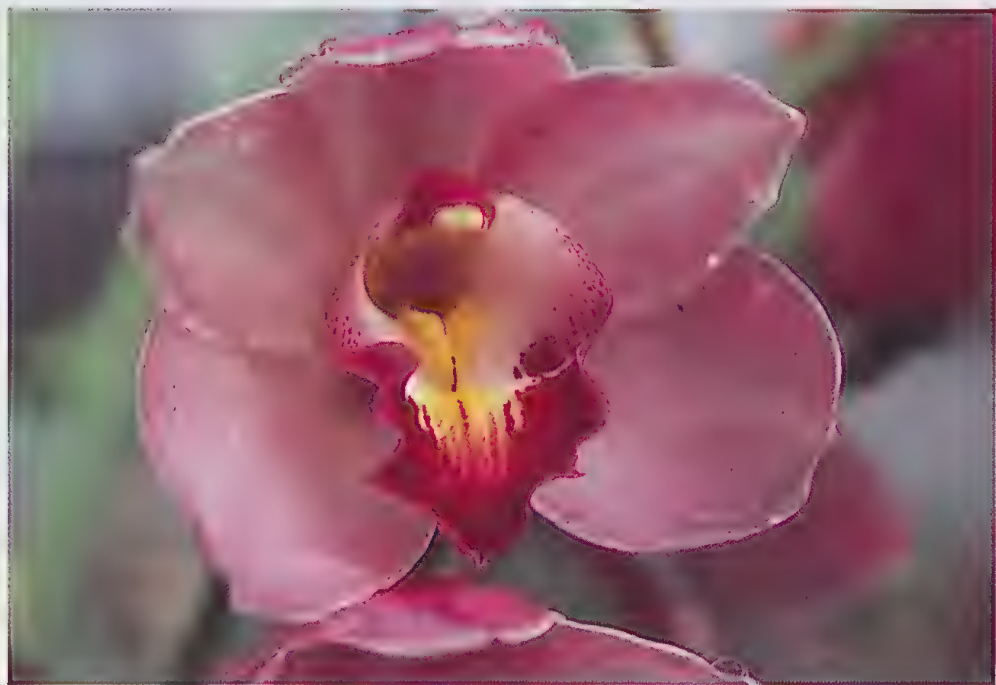
Crosses that have excelled for Cecil Park include *Cym. Warrinya* (Balkis × Lustrous) and even though different varieties of Balkis were used i.e.: 'Silver Orb', 'Cecil



Right to left: John Gulbis, Paul Gripp, Melita Gulbis and Merv Green.

Park', 'Olympus' and 'Nevada', the variety 'Luath' has been the most successful.

Another successful cross is *Cym. Cupaulin* (Melinga × Sussex Dawn), while the variety 'Cecil Park' is probably the finest from the cross. *Cyms. Buxom*, *Gwenda*, (Stanley Fouraker × Via Vista), (Trigo Royale × Fanfare) and (Trigo Royale × Trinity Hall) which have also been more than useful crosses.



Buxom 'Malcolm Jon'

In the flowering season, the nursery has a staff of eleven, with this number reducing to four in the off-season. Like most nurseries it is this time of the year that breaking-up, re-potting and potting-on occurs. Cleanliness is the operative word, with all cutting instruments going through a five-phase operation:

- (1) Detergent solution — to remove soil particles;
- (2) Bleach solution — to sterilise;
- (3) Wescodyne solution — an iodine-based solution as a bactericide;
- (4) Tri-sodium phosphate solution — to control virus;
- (5) Flame knives to the red-hot stage.

Fertilising is put through an overhead watering system and fungicide/miticide control is instituted when required. Biological control of red spider has been undertaken for a period of four years, in conjunction with the CSIRO with great success.

Regular upgrading of the collection is constant because of the amount of seedlings produced. This coming season should see around 5,000 new seedlings flower, of which approximately five per cent are considered worthy of keeping.

Considering their beginnings in the orchid world, one would think that John and Melita's favourite orchid would be a cym-



*P. Alice Gloria 'Cecil Park'*

bidium. But surprisingly enough the honour goes to another genera, *Phalaenopsis* Alice Gloria 'Cecil Park', undoubtedly Australia's finest white phalaenopsis. This particular clone has won more championships Australia-wide than any other orchid and is now passing on its qualities to its progeny.



## *Dendrobium* Mousmee 'Hunter', CC/NSW

The grex *Dendrobium* Mousmee has many desirable clones. On seeing one everyone feels they would like to have it. But plants have been in short supply although mericlones are in prospect.

The clone earned a Cultural Certificate for Mr Ross H. Smith of Singleton, NSW. It carried over 950 blooms on 39 thyrses (panicles of flowers). It is a primary hybrid from *D. thyrsiflorum* and *D. bronckartii* registered in 1941. This plant was grown in a fine cattleya mix under 70 per cent shade cloth in a district where extremes of weather prevail. It was fertilised with Dynamac and an occasional dash of Campbell's yellow from July.



## A Defence of *Paphiopedilum fairrieianum* To "r" is human . . .

**. . . but two rr's are fine. *Paphiopedilum fairrieianum*  
is not so much a minor nomenclatural matter being cleared up  
but a principle being affirmed.**

Dear Sir,

While the eloquence of Keith Bennett's defence of *Paphiopedilum fairrieianum* over *P. fairrieianum* (Australian Orchid Review 50(4): 39-40 (1985) is to be commended, it does not alter the technical position as laid out in the International Code of Botanical Nomenclature (1983) (called by the way the "Sydney Code"). This states categorically under Article 73.1 that "the original spelling of a name or epithet is to be retained, except for the correction of typographic or orthographic errors". I have stated elsewhere that the man honoured by Lindley when describing this species called himself Mr Fairrie (not Fairie). Furthermore, Lindley has written at the bottom right-hand side of the type specimen, in his herbarium at Kew, the name "*C. fairrieianum*". "*Fairrieianum*" is obviously, therefore, an orthographic error to be corrected.

As for old uses of the epithet "*fairrieianum*", its use is not without precedent. I can cite Rolfe's regular use of that on labels at Kew and, for example, his articles on its rediscovery in the Times of April 14 and 29, 1905.

I can sympathise with Mr Bennett's wish to retain a well-known spelling but would argue that Article 73.1 of the Code is unequivocal and, therefore, the correct name for this splendid orchid is *Paphiopedilum fairrieianum*.

I feel that I have a personal interest in this case with a name ending in a double consonant. Mr Bennett might also reconsider his own case or else we might end up with a "*Paphiopedilum beneti*". Even he might then resort to Article 73.1 in his defence. My case rests there m'lud!

Yours sincerely,  
Dr P.J. Cribb  
Kew Botanic Garden



Royal Botanic Garden  
Edinburgh EH3 5LR

Dear Sir,

I fear that Mr K.S. Bennett's exhaustive searching of the early literature on *Paphiopedilum fairrieianum* is largely irrelevant (AOR Summer 1985 page 39). Moreover his contention "that the actual true spelling of the gentleman's name is immaterial" is quite wrong. The fact that many authors have copied Lindley's spelling does not make it correct.

Those who practise or dabble in the science (or art) of naming plants must abide by the laws laid down in the *International Code of Botanical Nomenclature*. This work, not even mentioned by Mr Bennett, states in Article 73 that original spellings must be retained except for the correction of "typographic or orthographic errors".

The debate thus hinges on whether or not Lindley was in fact making an error. If he was, then Dr Cribb (who is incidentally perfectly familiar with all the early orchid literature) is correct and the name should be spelled "*fairrieianum*" with a double "r". If, on the other hand, he deliberately omitted an "r" (perhaps to make a Latinised form), then the name should be "*fairieianum*" with one "r".

A definitive answer depends on knowing what was in Lindley's mind in 1847, and this is quite apparent in the passage from the Gardeners' Chronicle quoted by Mr Bennett, in which Lindley refers to "Mr Fairie". Lindley was therefore mistaken, "*fairrieianum*" is an orthographic error for "*fairrieianum*", and the latter is the correct spelling.

Yours sincerely,  
Dr J.C.M. Alexander  
Royal Botanic Garden, Edinburgh

## GEMS OF THE ORCHID KINGDOM

# *Dendrobium cuthbertsonii* F. Muell.

GERALD McCRAITH



*Den. cuthbertsonii* F. Muell., Papua New Guinea.

Papua New Guinea is the habitat for many orchids of vast botanical importance while many have great horticultural potential.

Because of the dwarf nature of this species with comparatively large flowers of bright colours and the long-lasting qualities of the flowers, this remarkable species can be considered as one of the "most sought-after gems of the Orchid Kingdom".

This species was collected by Cuthbertson and Sayer in 1887 in Central Province, PNG, and was subsequently described and published by Baron Ferdinand von Mueller in Melbourne. During the next 20 years, this species was given six more different names by botanists to plants in different regions.

The distribution and details are published in the Kew Magazine Volume 2 Part 3, 1985.

*D. cuthbertsonii* F. Muell. in Trans. Proc. Roy. Soc. Victoria 24:175 (1888).

*D. agathodaemonis* J.J. Smith in Bull. Dep. Agric. Ind. Neerl. 39:7 (1910).

*D. asperifolium* J.J. Smith in Bull. Jard. Bot. Buitenz. ser. 2, 2:13 (1911).

*D. sophronites* Schltr. in Fedde. Repert. Beih. 1:524 (1912).

*D. trachyphyllum* Schltr. in Fedde. Repert. Beih. 1:525 (1912).

*D. atromarginatum* J.J. Smith in Nova Guinea 14:422 (1929).

*D. lichenicola* J.J. Smith in Nova Guinea 14:423 (1929).

*D. sophronites* Schltr. was also a name given to this species, and the name by which this species is so well known today. This is an alpine species, rarely found below 1,800 metres, and up to the higher altitudes of 3,000 metres. The species is closely allied to the section *Oxyglossum*, another remarkable and colourful *Dendrobium* species.

It is described as growing in abundance in widespread habitats which may be on ridges and on the edges of forests where the plants are subject to strong breezes and rain.

Such habitats are often shrouded with cloud, mist or rain for considerable periods.

The plants grow in large colonies, often on moss-covered rocks.



Unfortunately, although the plant is widespread over a number of regions which often have no easy access, plants are very difficult to obtain.

I know of a number of growers in Queensland who have sad stories to tell in their attempt to grow this species, but when we take a brief survey of its habitat, we find that the weather pattern is often unpredictable and certainly sharp contrasts between day and night. The nights can be unbelievably cold at certain times.

The writer has had his plants for a number of years and during this time, a number of potting materials have been tried as well as growing on fern slabs with varying results. The most successful and dependable has been sphagnum moss which is changed every second year with very little fertilising.

In Melbourne, a glasshouse environment is necessary that has facilities to provide a minimum temperature during winter 10°C with reasonably good light, except that in the heat of summer, heavy shading is necessary. This species must not be allowed to dry out at any time of the year.

A number of the orchids habitating the lower levels in PNG are known as "one-day wonders" but more often than not, are

pollinated before the day has passed by native insects or bees, whereas, many of the alpine orchids have very long-lasting qualities, suggesting that the natural pollinators are absent or very few in number, and the selection of plants surviving in these elevated regions depend on accidental pollination for the species to survive over the very long period of time. It's a very interesting question.

Of all the gems among the many orchids in Papua New Guinea, *Dendrobium cuthbertsonii* must be classified for its varying bright colours of the flowers which may last in good condition for 16 to 20 weeks of time, again a remarkable factor, for such a tiny plant. The plants are one of my treasures.

Schlechter referred to this species in 1909, "One of the most charming *Dendrobium* species known to me".

#### References

*Orchids of Papua New Guinea* by Andree Millar 1978.

*The Kew Magazine* Volume 2 Part 3, 1985 by Phillip Cribb, Tom Reeve, Patrick Woods.

*Orchidaceae of German New Guinea* by R. Schlechter 1982.

107 Roberts Street, Essendon,  
Victoria 3040

# OWZAT!

## Terrific Tropical Phalaenopsis



Mary Riordon of Mourilyan Road, Innisfail, Queensland flowered this magnificent display of over 1,000 phalaenopsis spikes. Innisfail has the highest rainfall in North Queensland so orchids must be grown in a glasshouse. This one is 10 metres long and cattleyas and dendrobiums are also grown

in it. Mary gets a great deal of pleasure out of her collection, and obviously puts a great deal of work into it. Many a traveller has had a lovely couple of hours viewing her outstanding collection.

Congratulations Mary Riordon.

# GET IT RIGHT!

MAURIE BLACK

Back in the good old days of six o'clock closing of pubs, the time-honoured call was "Time, gentlemen, please". Well, in the orchid world, also, it's "Time, gentlemen, please".

I have been a member of the orchid fraternity for a regrettably short twenty years — the organisation of my life precluded the possibility of an earlier start — and, by now, I am up to here with mispronunciations.

One of the prerequisites of orchid growing is NOT a university degree, but out-and-out illiteracy doesn't help much either. We don't hear it so much these days, but remember going to see a "fillum"? Or cleaning a "chimley"? These were simple examples of an inability to say a word as it is spelt.

In orchids, there is a rich field of opportunity for mispronunciation and it is staggering just how many people have taken advantage of that opportunity.

Our language has been enriched by borrowing words from other languages, where, possibly, the borrowed word happens to be more expressive or more concise.

Other countries have similarly-borrowed words from English, in which the word "home" has been borrowed by the French as more expressive than their own "chez moi", literally, the house of me; not nearly so warm an expression as our "home".

When we borrow from others, we can't, it seems, leave well enough alone, as in the case of, pardon me for mentioning it, women's underclothes — lingerie. We borrowed "faux pas" and "coup-de-grace" and had the grace to take them at face value, but we really butchered the underclothes! In French, the word is roughly "lan-zjer-ee". What did we do to it? "Lon-jer-ay"! Nothing like it!

Carelessness and common usage play their part in the massacre of the language, as we see in the frequent use of "deteriate" instead of "deter-i-or-ate", "hide-arrange" instead of "hide-ranger". It is amusing to read through the garden classifieds to see



the number of ways of spelling *Monstera deliciosa*. Now they've got me doing it!

But orchids open up such a wide panorama of opportunity unlimited that it boggles the mind.

Let's look at a few examples.

Species — that's both singular and plural. To singularise species to specie, we move from botany to bullion.

Genera — we can't have one genera, because genera is the plural of genus. And yet, as long as we have had judging sheets in orchid societies, we have had a section for "Any Other Genera", often right next to the sections for "Any Other Hybrid" or "Any Other Colour", both singular, so why not "Any Other Genus", singular?

Keiki is another borrowed word, this time from the Polynesian and meaning "child". In this language, each vowel is sounded separately, with the accent on the second-last vowel in the word. So we have "Kay-ee-kee" which, pronounced at conversational speed becomes "Cake-ee", not "kicky".



# GET IT RIGHT!

In Botany, for international acceptance, most names are latinised by adding suffixes like "ii" or "iana", etc to names as in *Aerides fieldingii* or *Cattleya bowringiana*. To pronounce these we say the name then just tack the "ii" or whatever to the end. So, Bowring-iana, not Brinjiana. *Dendrobium loddigesii* and *Cattleya loddigesii* was named after Mr Loddiges, pronounced Lodd-eezj. With the "ii" suffix added, it is Lodd-eezj-ee-eye not Lodd-i-jessie-eye.

The naming of new, man-made multi-generic hybrids comes about by simply adding -ara to the name of the originator or his/her nominee. Again, just say the name and add the "ara", as in *Alice-ara* or *Howe-ara* and don't complicate things by saying *Alice-iara* or *Howe-iara*. *Brassovola* was simple enough till America tried to call it "Br-sah-v'lah", which I never cared for much, but we have been saved at least that much by the taxonomists, who decided to call the genus *Rhyncolaelia*, which I find absolutely incorruptible.

*Paphiopedilum* is often abbreviated to Path, or Phap. *Phragmipedium* frequently gets the "ilum" ending from *Paphiopedilum*. *Cymbidium*, you would think, could not be played around with much, but it gets Cymbidian or Cymbibian. Again, carelessness.

Nothing but ABC (Absolute B..... Carelessness) can be blamed for "Ondontoglossum" or "pumulium", yet one hears this quite frequently. "Pyu-myu-lium" indeed! Ouch!

Where "ch" appears at the beginning of a word, it is pronounced as in "child", but where it appears within a word, as in *Sarcophilus* or *Dendrochilum*, it is always pronounced as "k" — Sarco-kye-lus, Dendro-kye-lum.

*Dendrobium thysiflorum* must be pronounced as written, Thurs-iflorum, not Thrice-iflorum.

Keeping the best — or worst — till last, we have *Cattleya*, named after William Cattley, so -Cattley-a. How, in God's name, does it get to be Cattle-ay-a? This erroneous pronunciation is rife here, in England and in America and I am nearly at screaming point whenever I hear it.

One evening, at an orchid society meeting,

a slide presentation was in progress, subject, Australian native orchids, and, would you believe, no less than sixteen times in less than ten minutes, reference was made to either *Cymbidium* or *Dendrobium* "can-ick-ulatum". Ye gods! I shrivelled visibly on each occasion. I felt embarrassed for the humiliation the speaker heaped upon himself, sublimely oblivious though he was of it.

As orchid-growers, we are expected to know a little more about our subject than Snowy on the Trams — unless Snowy is a member of an orchid society. In which case, Snowy, please stand up. I have been wanting to meet you for years . . .

The sad fact is that, every time we use these stupid inaccuracies, our credibility is eroded. Use them often enough and we become fools, who uselessly desecrate the language.

Please, look at the words. Actually SEE them and for God's sake — and mine — GET THEM RIGHT!!!

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# *How I Fertilize and Spray Thoroughly and Save Time*

**BOB ZELLER**

Like so many other orchid growers who work five days a week I find that I just do not have enough time at weekends to do all that I would like. I am also one of those growers who likes to water as early as possible after it has warmed up but in time for the plants to dry before nightfall, so I feel it is necessary to water or fertilize before midday.

My orchids are housed in a hot house 6 m x 3 m and a shadehouse 15 m x 3 m. I use rain water exclusively because town water is not supplied to our property outside Taree.

Two 1,000-gallon tanks have been installed and these are connected to a spray system through a small pump (the pump was one used in a dishwasher).

Fertilizing and spraying for pests and diseases was done by means of a 17-litre backpack but was very time-consuming and tedious, and because of this I found that I did not always complete one or other of the houses during a spraying cycle. Something simple and quick was needed but after looking at some of the proportioner systems I decided that they were not suitable to my application.

I had often seen 200-litre plastic drums advertised for sale, and on inspection found them to be of extremely heavy quality. These drums have been imported containing pickled vegetables of some kind so it would appear unlikely there would be any toxic substance in them — they would be corrosion-free.

A hole 18 mm in diameter was drilled in the bottom of the drum near the edge. I then cut the top off a 25 mm plastic plug leaving a round piece of plastic with a hole through the centre which was then glued to the bottom of the drum around the 18 mm hole.

The drum was placed on a stand the same height as the pump so that the fluids would gravity feed to the pump.

A plastic pipe 18 mm diameter was glued into the plug to run the fluids from the drum through a three-way valve, then a filter and into the pump. The valve I use is a 'Kitz' which either directs water from the tanks or fluids from the drum to the pump. The filter is a 'Hypro' 3350-0035, which is most important to keep all the spraying equipment from becoming clogged.

When I fertilize or spray I use an ordinary garden hose to which is attached by means of the garden clip-on attachments, a wand made from a 70 cm piece of 12.5 mm copper pipe soldered into a 90° bend to which is attached a Rega No. 10 Straight Cyclone Sprayer. This also comes in a 45° angle which could be a better one to use except for overhead spraying. The orifice size range is from .031" to .062", five in all, I use the smallest for insecticides and the largest for fertilizers.

All fertilizers are premixed in a stock solution which helps overcome the problem of undissolved granules. The strength I use corresponds to the Johnson formula and is made by mixing 28 level Aquasol-spoonfuls of fertilizer granules in five litres of water and then using 1½ litres of this mixture in 100 litres of water in the drum.

Once the fluids are in the drum I achieve thorough mixing by running them through the hose back into the drum for a couple of minutes. I find that I can now fertilize or spray all my orchids in 1½ hours instead of the previous time of four hours plus.

*RMB 9 Bucketts Way, Burrell Creek 2429*



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Further SLC. Hazel Boyd clones available at the nursery include 'Orinda', 'Hilda', 'Vi — First Love', 'Elizabeth', 'Frae', 'Redstone', 'Irene', 'Apricot Glow', 'Tropical Fantasy', 'Orange Tart', '2171' plus many more.

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 81179 Excalibar 'Galahad' x Bexley Radiance 'Bexley' — good shapes with upright spikes. Some interesting darker colours should eventuate.  
 81218 Sleeping Dream 'Kings Ransom' x Sarah Jean 'No. 1' — we expect pure colours to eventuate with upright spikes.  
 8235 Melinga 'Golden Surprise' x Sarah Jean 'Toms Delight' — expect free-flowering miniature and intermediate cymbidiums in shades of greens and yellows. This is a remake of Melanie.  
 8237 Amesbury 'Frank Slattery' x Sarah Jean 'Toms Delight' — will produce quality green flowers on long, arching spikes.  
 8274 Beacon Fire 'Cecil Park' x Rincon 'Clarisse' — expect pink to red flowers on arching spikes.  
 82141 (Zuma Boyd x Sleeping Beauty) x Hanama — some interesting shades should eventuate with tall, upright spikes.  
 82163 Coraki 'Norah' x Beacon Fire 'Cecil Park' — expect pendulous to arching spikes of quality blooms in the sunset shades.  
 82185 ensifolium x Bexley Radiance 'Bexley' — should produce in shades of red with broad-banded red lips.  
 82292 Melinga 'Golden Surprise' x Sarah Jean 'Jodie Leanne' — expect compact growth, upright spikes, prolific-flowering, pure-colour yellows. A remake of Melanie.  
 82333 (pumilum x Emperor) 'Stevie' x Rincon 'Clarisse' — expect compact-growing, pink to red flowers with well-marked lips on upright spikes.  
 82383 (pumilum x Emperor) 'Stevie' x Amesbury 'Frank Slattery' — expect compact plants carrying olive-green flowers, some polychromes may occur.  
 82407 (pumilum x Emperor) 'Stevie' x Kurun 'Maggie' — expect compact-growing plants with flowers in the deep pink to red shades.  
 82431 Amesbury 'Frank Slattery' x Melinga 'Yellow Bird' — expect easy-to-flower, compact-growing plants with flowers in shades of green.  
 82441 Amesbury 'Frank Slattery' x Poetic 'Moomba' — expect quality greens on upright spikes.  
 82451 ensifolium x Poetic 'Moomba' — expect small, compact-growing plants with upright spikes in shades of green.  
 82459 Amesbury 'Frank Slattery' x Wiena '#1' — expect some interesting green to brown flowers.  
 82465 Showgirl 'Marion Miller' x Wiena '#1' — expect white through to light pink flowers on upright spikes.  
 82467 Showgirl 'Marion Miller' x Rio Rita 'Radiant' — light-shaped pinks should predominate.  
 82479 ensifolium x Wiena '#1' — expect small, compact plants with flowers in the yellow to sunset shades.  
 82811 Beacon Fire 'Cecil Park' x Terama 'Robin' — expect arching to pendulous spikes with solid, dark red flowers.  
 82823 Sylvania 'Sonnet' x Greenoaks Gem — expect compact growth with upright spikes with pink flowers. Good potential.  
 82835 Tetsugetses x Kiata 'Nightshade' — expect upright spikes of medium to dark red flowers.  
 82839 Tetsugetses x Sensation 'Chianti' — expect quality medium to dark red flowers on upright spikes.  
 82842 Tetsugetses x Coraki 'Norah' — expect arching to upright spikes in the sunset shades.  
 82845 Tetsugetses x Terama 'Robin' — expect medium to dark red blooms on tall, upright spikes.  
 82846 Tetsugetses x Sylvania 'Sonnet' — expect quality, light-pink flowers on upright spikes.  
 82848 Tetsugetses x Tongariro 'Flare' — expect upright spikes of polychrome flowers with the possibility of some flaring.  
 82874 Mimi 'Mary Bea' x Wyalong 'Orange' — expect upright spikes of quality flowers in shades of red to orange.  
 82883 Tetsugetses x Kurun 'Maggie' — expect upright spikes of light to rose-pink flowers.  
 82886 Kiata 'Nightshade' x Moria 'Royal Oak' — expect tall spikes with very dark red flowers.  
 82899 Kiata 'Nightshade' x (Zuma Boyd 'Magnificent' x Sleeping Beauty 'Classic') var. Olive — a standard cross, although should be small growing — expect browns.  
 82901 Tetsugetses x (Zuma Boyd 'Magnificent' x Sleeping Beauty 'Classic') var. Olive — polychromes should develop on upright spikes.  
 82906 Tetsugetses x Hamsey 'The Globe' — expect upright spikes of pink to brown polychrome flowers.  
 82908 Tetsugetses x Terama 'Yowie Bay' — expect tall, upright spikes of medium to dark red blooms.

- (1) Orders are filled as received. Packaging and freight are extra (at cost). Send no money with order, just name, address and phone number.
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- RD196 Paph. *primulinum* x Self. .... \$10.00 in 3" pot  
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Full shaped, exhibition-type whites.

**D. AUTUMN SHOW x (D. BRIGHT EYES x D. MARGARET JOAN FELL) x  
D. GEMWOOD**

Expect whites with coloured lip.

**D. AUTUMN SHOW 'WHITE' x D. ELATED**

A crossing of Phalaenanthé and Latouria sections. Should be more prolific growing and free flowering — whites.

**D. ELATED x D. AFFINE 'CAIRNS' — Silver Medal  
10th World Orchid Conference, Durban, South Africa.**

Expect longer sprays of white blooms with green lip. These plants are vigorous growers and should have an extended flowering season.

**(PHAL. KAREN ANN McFARLANE, hcc x PHAL. NANA HANCOCK) x  
PHAL. KAREN ANN McFARLANE**

Exhibition type, large whites with red-coloured lip.

**(BLC. NEIL BLAISDEL x LC. TERRY WAYNE) x LC. WESTERN SUNSET**

Yellow to orange background, splashed petals, good shape — very highly recommended for the cattleya connoisseur.

**BLC. SYLVIA FRY 'SUPREME' x LC. WESTERN SUNSET**

Expect a range of sunset colours, full shape, exhibition type.

**LC. WESTERN SUNSET x LC. HAWAIIAN FANTASY 'DORA'**

Lc. Hawaiian Fantasy is one of the most popular splashed-petal cattleyas in Hawaii. Expect yellow background with purple-splashed petals — very full shape.

**LC. CLOTHILDE x (C. PRECILLA WARD x C. GUTTATA)**

Numerous flowers in greens to orange with spotting and bars.

**THE FOLLOWING VANDA PARENTS ARE ALL OF EXCEPTIONAL FULL SHAPE  
AND WITH THE ASCOCENDA INFLUENCE THE TIME TO FIRST FLOWERING IS  
SHORTER AND THEY WILL FLOWER MORE FREQUENTLY.**

**V. VARAVUTH 'BLUE' x (ASCO. BLUEBOY x V. SEEPRAI) 'BLUE'**

Even though there is Ascocenda in the crossing, expect large vanda-size blooms, dark blue, extra full shape.

**(ASCO. BLUEBOY x V. SEEPRAI) 'RUST' x ASCO. PHAIROT**

Expect orange, reds and plum colours — fantastic shape.

**ASCO. PHAIROT x V. KASEMS DELIGHT**

Expect very full-shaped reds.

**(V. SEEPRAI x V. BLUEBOY) 'BLUE' x (V. SEEPRAI x V. BLUEBOY) 'RUST'**

A sibling cross — expect excellent-shaped blues and rusts.

**THE ABOVE CROSSES ARE AVAILABLE IN FLASKS ONLY. Vanda, Cattleya and  
Dendrobium flasks contain approximately 30 plants — \$30. Phalaenopsis  
flasks — 25 plants \$30. Money must accompany order. Please include \$7 for  
air freight up to six flasks within Australia. New Zealand include \$18.  
PLEASE ADVISE PHONE NUMBER.**



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Montabel 'Carlingford'

*At Wondabah we can show you quality and colour in all genera. This time paphiopedilums. We have quantity of stock and superb quality in many new paphiopedilum crosses. Their growth this year was outstanding and we also have many flowering paphiopedilums for sale. Our new autumn/winter catalogue shows you new outstanding crosses in all genera and of course all needs for the orchid grower from terracotta pots, compost, bark to fertilisers.*

Wondabah has a new face for you to meet this year, Christopher Giles, the third generation, to continue the reputation at the nursery of integrity, quality, attention to breeding and friendly service to our customers.

We look forward to welcoming you to view our seedlings, and of course, flowering orchids for sale.

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## *CHOCOLADA 'Mocha'*



### *Chocolada 'Mocha'*

*Best Standard Open Division 1985 OCSA Spring Show.*

'Mocha' is proving to be very free flowering with the added bonus of also being multi-spiking.

It is again in spike after carrying nine very heavy seed pods whilst not being staked in any way.

Crossings with 'Mocha' both as a pod and pollen parent will be offered later this year.

**FROM JULY TO OCTOBER:**

Visitors to our nursery are very welcome but by appointment only.

## Introduction

*ORCHIDS AUSTRALIA '86 will be the most exciting orchid conference this country has seen. Now is the time to consider your participation.*

*Already, our paid registrations have surpassed the final numbers for Melbourne (1984) and Townsville (1983). Remember, the registration fee includes the opening night dinner, the numbers for which are limited, so register now and don't miss out.*

*The international orchid exhibition will cover 30,000 square feet and be one of the most spectacular ever staged in this country. The comprehensive prize schedule provides over \$7,500 in cash for competition by all orchid growers. It is hoped that most Australian clubs will send exhibits.*

*There is a lot of international interest in the conference and groups and exhibits are expected from USA, UK, Japan, Mexico, South Africa, New Zealand, Thailand, Philippines, The Netherlands, Taiwan and Singapore.*

*All Australian orchid growers are invited to join us in making ORCHIDS AUSTRALIA '86 a most enjoyable celebration of orchid growing and a tribute to the 150th anniversary of the European settlement of South Australia.*

**D.J. HARRIS, CHAIRMAN  
ORCHIDS AUSTRALIA '86**





# Troweena Orchids Temptations

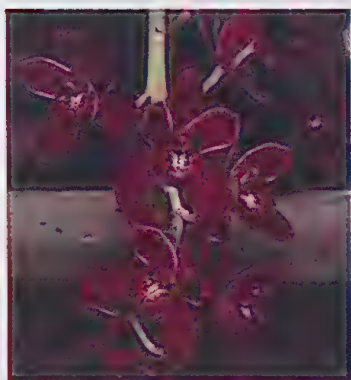
**MAY WE TEMPT YOU TO ORDER FROM THE SPECIALISTS . . .  
WITH A PREVIEW OF OUR CURRENT CATALOGUE AND LISTS —**



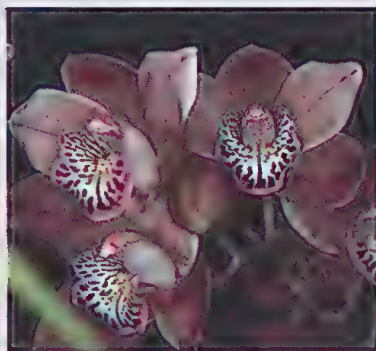
Cym. (parishii 4n x Barushka)  
'Everglades'



Cym. Alison Shaw 'Valentine'  
BA-ABM/CSA, HCC/VIC-AOC



Cym. Ruby Eyes 'Red Baron' 4n  
AM/AOS, SA/CSA



Cym. Phyllis Friedlander  
'Pride of Kapiti'

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# WHY NOT BE IN IT?

**ELMORE LESKE**

**Chairman — Administration Committee**



**HOTEL ADELAIDE**



A great orchid conference-and-exhibition has been planned for the 10th Australian Orchid Conference to be held in Adelaide, South Australia, on September 17-24 of this year. It will be one of the biggest orchid conferences to have been assembled in Australia; in fact, it is already turning out to be an Australian and international orchid event of memorable proportions.

Completed registrations are now (at a point six months ahead of the planned fixtures) rapidly approaching the 500-mark. This figure looks likely to be very nearly doubled. Planning, which has been in progress for some four years, is now at the final-honing stage. Excitement in this festival city of the south is mounting as the reality of an event of this magnitude and importance in South Australia's Sesquicentenary Year is coming into quite sharp focus. And even the orchid plants of South Australian growers seem to have sensed at an early stage in 1986 that this is the year to do their very best for Australia and the world.

If you are an orchid grower or connoisseur who has hitherto remained quite unmoved by any publicity concerning ORCHIDS

AUSTRALIA '86, maybe this informative supplement will stir you to reach for your registration form, complete it, and post it off, so that you will not after all miss the thrill, the education, the enjoyment and the fun of it all.

To help you complete your registration form, the administration committee of ORCHIDS AUSTRALIA '86 offers you the following run-down on the range of accommodation available. The numbers bracketed after each hotel/motel described coincide with the numbering of the accommodation listings on the ORCHIDS AUSTRALIA '86 registration brochure. As well, there are additional venues offered here because of the demand we are experiencing and the wide range of facilities desired by so large a group of registrants.

The Hotel Adelaide (1), on Montefiore Hill just to the north of the city centre, is the official conference centre. The registration desk and hospitality desk will be located here; these will be attended by friendly and helpful orchidists keen to serve all registrants, irrespective of the locality of their accommodation.



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## WHY NOT BE IN IT? — Continued

A little way down the slopes of Montefiore Hill towards the city are situated the **Greenway Apartments (2)**. As all accommodation here has already been fully booked for the duration of **ORCHIDS AUSTRALIA '86**, registrants should no longer include these apartments in their preferences.

The **Grosvenor Hotel (3)** is very centrally situated in the city of Adelaide — on North Terrace, opposite the central railway station (which is no longer the terminus for interstate rail travellers) and the recently-opened casino. This may make it worth a flutter for many registrants! It is rated a four-star hotel in the **RAA** listings, and has often been used by overseas orchid growers when visiting Adelaide. It offers reasonably-priced accommodation of a very good standard, and is within easy access of everything that is important in Adelaide.

Near the General Post Office at the southern end of Adelaide's main thoroughfare, King William Street, and overlooking Victoria Square with its large fountain and spacious lawns (the starting-point of the run to the seashore at Glenelg by Adelaide's only tram service) is the **Hilton International (4)**. This hotel scarcely needs an introduction. In the tradition of the Hilton chain, this international-class hotel offers everything for the comfort and enjoyment of its guests. Its situation is approximately midway between the conference centre and the show venue. A variety of modes of transport (if needed) provides easy access in both directions.

Not to be confused with the Hilton International is the **Hilton Adelaide Motor Inn (5)** on Greenhill Road, Parkside. This is high-class motel-type accommodation for those looking for something special in that area. It is easily reached by interstate motorists driving from the eastern States via the delightful Adelaide Hills route, as it is situated on the southern perimeter of the greenbelt surrounding the square mile of the City of Adelaide.

The **Jasper Motor Inn (6)** is located two kilometres directly south of the city centre in the popular, attractive and relatively quiet area of Hyde Park. It offers motel accommodation with all usual facilities at

quite reasonable prices. Public transport is handy, if required, and gives easy access to all destinations.

**Kean's Arkaba Court Motel (7)** is situated directly on the route by which motorists enter Adelaide from the east via the freeway through the Adelaide Hills (the Mount Lofty Ranges). Its situation makes it very popular for travellers. Not far from it is the Australian Mineral Foundation, where Saturday's lecture sessions will be held. The exhibition venue is within easy motoring distance, a few kilometres to the west.

On the city side of the greenbelt along the southern border of Adelaide's inner square mile (South Terrace) are two of Adelaide's most prestigious motels, the **Parkroyal Motor Inn (8)** and the **Travelodge (15)**. The tariffs themselves point to the high grade of accommodation offered and the large range of first-class facilities provided for guests. Motoring from either of these adjacent venues to all major conference functions is so simple; there is but one right-angle change of direction from South Terrace either to the north (to the conference centre) or to the south (to the conference exhibition).

**Powell's Court Motel (9)**, at Glen Osmond Road, Parkside, is a little closer to Adelaide's centre than Kean's Arkaba Court Motel. It virtually fronts the south-eastern corner of the greenbelt, and so is just across the road from Victoria Park Racecourse — and the scene of all the Formula One Grand Prix activity when that hits Adelaide a month or so later than **ORCHIDS AUSTRALIA '86**. The modern self-contained units of one, two or three bedrooms have fully-equipped kitchens, colour TV and private bathrooms. Up to ten persons can be accommodated in a three-bedroom unit.

**Princes Lodge Motel (10)** is situated in North Adelaide. It is about a kilometre from the conference centre. It overlooks the north-eastern section of Adelaide's greenbelt, and it offers views over the Torrens Valley towards the Mount Lofty Ranges. The Princes Lodge Motel is one such elegant mansion converted into self-contained suites with modern (not Victorian) furnishings and the usual modern facilities.



*A special  
invitation . . .*

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AFTER ORCHIDS AUSTRALIA '86 ...

*head straight for Sydney*

*to the*

**1986 SPRING  
ORCHID FESTIVAL**

**SYDNEY TOWN  
HALL**

**September 22-27, 1986**

proudly presented by the

**Orchid Society of NSW Ltd**



## WHY NOT BE IN IT? — Continued

For those who are looking for more economical rates than the standard tariff, there are some units (without telephone) in the converted coach-house.

The most recently built of all the accommodation centres listed is the **South Park Motor Inn** (11) at the western end of South Terrace (at the corner of West Terrace and South Terrace, which is the point from which Anzac Highway begins its course from the city to the popular seaside suburb of Glenelg. Top quality facilities are offered in this very modern motel. The rooms are beautifully appointed; and the individual balconies provided for each suite offer quite delightful views. There is a cocktail bar, and also a restaurant on the top floor.

One of the closest hotels to the conference centre is the **Old Adelaide Inn** (12), until recently known as the **Telford Old Adelaide Inn**. Do not be deceived by the name. It is one of Adelaide's newest hotels/motels with very comfortable accommodation and most attractive facilities. It has everything you could expect from a five-star international motel. Luxurious suites have every modern convenience. The **Old Adelaide Inn** is situated a few hundred metres to the north of Hotel Adelaide, along the same main thoroughfare of North Adelaide.

Another centrally-located hotel in North Terrace, virtually opposite Parliament House (and the new casino) is the **Gateway Hotel** (13). This is a top-class hotel with a firmly-established reputation. Anyone booking accommodation here will be more than happy with their most central location, quite apart from the fine standard and quality of the hospitality offered.

The **Town House** (14) has a Hindley Street address. This means that it is some five hundred metres due west of Adelaide's Rundle Mall, the city's major shopping centre and its pleasantly paved and planted pedestrians-only precinct. The **Town House** is a first class motel, outstanding for its extremely central location and its larger-than-usual motel rooms.

Intending registrants for **ORCHIDS AUSTRALIA '86** should note that the organising committee has made some block

bookings with other establishments as well as those listed on the registration brochure.

This has been done, partly because of the rush on bookings that has already been experienced and that is still expected, and partly because of awareness that some visitors from other States and overseas may be looking for a greater range of accommodation-types from which they may make their selection.

Some visitors to a conference like this look forward to being accommodated as a group in other than a hotel/motel situation, where they may more or less fend for themselves at a cost which they find reasonable. To cater for such groups the organising committee has booked quite a number of villas at **Marineland Villas** at West Beach. As the name suggests, this is quite near the coastline to the west of Adelaide (and to the west of Adelaide Airport). The situation is very convenient for air travellers, as well as for motorists. Popular beaches are only minutes away; and the centre of Adelaide is still only 10 kilometres distant. **Marineland Villas** are a comparatively new feature of a very popular holiday centre at West Beach. Up to six people may be accommodated in each villa at \$40 per day. Each villa is air conditioned and has two bedrooms, a dining room, a lounge room and a bathroom — and is fully furnished, of course. Bedding and cooking utensils are all supplied.

An earlier news release from the **ORCHIDS AUSTRALIA '86** committee gave information on a number of other possibilities for accommodation. Potential registrants should note that the **Ensenada Motor Inn** is fully booked for the period of the conference. But there is also the **Morphettville Motor Inn**, only a few minutes from the Glenelg Beach and a quarter of an hour from the city centre via the Glenelg-City tram (which passes very near to the exhibition venue on its way to the city).

The **Haven Motor Inn**, at Glenelg North, offers deluxe suites from \$41 (one person) to \$59 (three persons), and executive suites from \$51 (one person) to \$69 (three persons) per night. The **Buffalo Motor**



## WHY NOT BE IN IT? — Cont.

Inn, another motel at Glenelg has accommodation at \$39 per night.

It should be emphasised that the tariffs listed on the registration brochure and in this description of the available accommodation may be subject to an increase by the time the accommodation is taken up. They are listed as accurately as possible at the time of publication to allow registrants to make a selection appropriate to their requirements.

Readers of this supplement who would like to register for ORCHIDS AUSTRALIA '86, or who would like to make further enquiries of any kind, are invited to write at once to: The Secretary, ORCHIDS AUSTRALIA '86, GPO Box 730, Adelaide, South Australia 5001.

### Registration Desk

All registrants attending ORCHIDS AUSTRALIA '86 should note that the registration desk at Hotel Adelaide will be open not only on Wednesday, September 17 and Thursday, September 18 (as indicated on the official programme in the registration brochure), but also on Tuesday, September 16 and Friday, September 19. You may register on any of these four days in order to collect your conference satchel, tickets, etc.

We look forward to seeing you and offering you a delightful experience among orchids and orchid personalities.

### FLASKS — PLANTS

Seedlings and Mericlones.

Phalaenopsis — showbench whites and pinks.

novelties and species including stem propagations.

Paphiopedilum — showbench and primary hybrids.

Cattleyas, Cymbidiums, Oncidiums, Miltonias.

Ascocendas and Zygopetalums.

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## DID YOU SEE THE COMET?

... NOT VERY EXCITING  
WAS IT?

Make up for it by coming to  
ORCHIDS AUSTRALIA '86.

Our exhibit site is H134. Easy  
to find right next to  
Geyserland Orchids H136.  
(Look for the large  
gentleman in the blue blazer  
who stutters and answers to  
Bubbles).

Our nearby commercial stand  
is C9, where you will be able  
to select from a wide range  
of our stock including many  
flasks and seedlings  
previously unreleased.

Look forward to seeing you  
there,

**CLIVE & AGI.**

*Sole importers for*

**ANDY EASTON'S GEYSERLAND ORCHIDS  
NEW ZEALAND.**

# Native Orchid Walkabout

SUNDAY, SEPTEMBER 24, 1986

Selected members of the Native Orchid Society of South Australia will lead field trips to observe Australian native terrestrial orchids in their natural habitat during ORCHIDS AUSTRALIA '86.

These trips will be of one-day duration, 9.30 am - 4 pm and will visit the hills area which forms a backdrop to the city of Adelaide.

Mini buses will be used and several stops will be made during the tour, visiting various locations. These are not strenuous hiking tours requiring lots of walking as many of the orchids are to be found within 200-300 metres of the bus drop.

September is the peak of the orchid-flowering season and sightings of many species can be confidently anticipated, from the tiny *acianthus* (gnat and mosquito orchid), *corybas* (helmut orchid) frequenting

the cool moist gulleys to the more flamboyant and showy *caladenias* (spiders), *thelymitras* (sun orchids), *diuris* (donkeys) and *pterostylis* (green hoods) found growing in more open and exposed areas.

The leaders of the field trips, groups of which will be restricted to 20, are expert enthusiasts in their field, knowing where the orchids, which are sometimes shy and hard to find, are growing and will be willing and able to share their knowledge with you and answer all your questions.

If you are coming to Adelaide in September (and who isn't?) make sure you register for the native walkabout on Sunday, September 21, 1986 at \$20 each which includes a packed lunch, it is very good value enabling you to see orchids, in many instances, unique to this part of the world.

Reg Shooter

## PETER CHILES ORCHIDS

FOR FINE CYMBIDIUM ORCHIDS

Catalogue available.

OPEN FROM 10 AM TO 5 PM

EVERY DAY

DURING ORCHIDS AUSTRALIA '86

5 Peacock Avenue, Gawler, South Australia 5118

Telephone: (085) 22 3883

Business Hours:

Saturday and Sunday 1 pm - 5 pm

May to November inclusive. Other times by appointment.



# Speakers at AOF Seminar

## SEPTEMBER 23, 1986

In conjunction with ORCHIDS AUSTRALIA '86, the Australian Orchid Foundation is conducting a seminar on aspects of the study and cultivation of Australian native terrestrial orchids.

Several notable speakers have been engaged to present papers at the unique seminar. The sessions will be held on Tuesday, September 23 between 2 pm - 5.30 pm in the lecture room at the Australian Mineral Foundation. Only conference registrants will be able to attend these fascinating lectures. Return transport is available for \$4.00 and lunch for \$4.00.

Dr Steve Hopper will present a paper entitled "A New Classification of *Caladenia* and Allied Genera from Western Australia". Dr Hopper is a botanist with the Western Australian Wildlife Research Centre.

Mr Mark Clements will discuss "Cultural Methods of Terrestrial Orchids Developed at the Australian Botanic Gardens, Canberra". Mark Clements has achieved remarkable results in isolating and cultivating mycor-

rhizal fungi in association with orchids enabling for the first time the successful raising of terrestrial orchids by flasking methods. His work at the Canberra Botanical Gardens has been recognised world-wide and as a result, he was recently seconded to Kew Gardens, England where he continued this research for a period of two years.

Dr Jack Warcup of the Waite Agricultural Research Institute, University of Adelaide is renowned for his pioneering work in the study of the mycorrhizal association of some Australian orchids. He will present a paper on *Rhizanthella gardneri*, the underground orchid. Dr Warcup is eminently qualified in this field as he recently exhibited a plant in flower of this rare subterranean orchid that he raised from seed. Truly a remarkable achievement.

Mr Les Nesbitt is to present a paper entitled "Cultivation of Terrestrial Orchids in Adelaide". Les is a past-president and foundation member of the Native Orchid Society of South Australia.

*Looking for Something Special?*  
*We may have it.*

THE SALES AREA  
10th AUSTRALIAN ORCHID CONFERENCE SHOW  
ADELAIDE  
SEPTEMBER 19-23, 1986

**HODGINS  
ORCHIDS**

PO BOX 108  
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TELEPHONE: 787 5554

# Jewels in the Desert

**MICK DENNIS — Whyalla Orchid Club**

It is now late summer 1986 and as I sit here in the warm sunshine looking down into the orchid houses, I see many blooms of phalaenopsis, dendrobiums, cattleyas and the odd slipper or two. The early blooms of *Cym. Minuet* are now starting to fade.

The ease of which we flower these exotic blooms without any form of artificial heat, with the exception of the phalaenopsis that receives heat during the winter months, takes my mind back to the early days.

Growers were told "No, you will never grow orchids in Whyalla, it's far too hot!"

How determined our orchid pioneers must have been to overcome nature's harsh arid conditions.

In years prior to the settlement of Whyalla, the area was hot, dry and dusty. Strong northerly winds prevailed through the summer months creating dust storms that covered tracks, making travelling very hazardous for horses and bullock teams.

The 21 pioneer families settled at the base of Hummock Hill (now known as Whyalla), they relied heavily on sea transport bringing supplies of food and water. They traded wool, myall fence posts, sandalwood and wheat.

The ketches grounded at low tide and unloaded into wagons towed by bullock or donkey teams.

Pioneer family names still live on in Whyalla, early settlers included Cowled, Cook, Broadbent, Ferry, Jenkins and Jacobs. Many streets are named after these pioneers.

Further south were the Goodes and the Galpins.

The hardwood of the western myall tree was used to make fence posts, being termite-resistant they were in great demand, trees were cut down by the thousands.

Since 1870 sandalwood has been exported to the east from this region, the oil was extracted and used for perfumes and

medicines. Sandalwood brought £22 per ton, not bad when the average wage was £3/5/- per week.

With the development of BHP exporting iron ore, the town began to grow and now is more widely known for its steel industry.

Still the hot dry months persist making the task of gardening almost impossible, many of the residents built brushwood fern houses in order to combat the harsh, hot, scorching winds that quickly cooked young tender plants.

A few keen gardeners had a desire to grow orchids so set off to the big city of Adelaide, 250 miles south-east of Whyalla.

Of course they were warned by the nurseries that orchids will not tolerate extreme temperatures, still not deterred they bought the plants and grew them in their brushwood-fern houses.

Many were discouraged when their plants didn't flower.

In November 1964 the Whyalla Orchid Club was formed, there were twelve members. They all decided to try out different methods of culture in order to get flowers, they met every third Wednesday in every month to discuss their culture methods.

Some growers were producing flowers and others were not. It was a complete mystery to them, for they didn't know why.

After many years it was discovered that some growers watered heavily after sunset during the hot summer months, this caused a drop in temperature of 15° enabling the plants to initiate flower spikes.

It was also discovered that the brushwood in some cases was too dark so 70° shade cloth was used, although young plants were still grown in the bush houses.

Today the town has grown and with it the interest of growing orchids. Many growers supply florists with blooms and plants and some just delight in giving arrangements to families and friends.



# 25

# Adelaide SILVER

**WE ARE CELEBRATING TWENTY-FIVE SUCCESSFUL  
YEARS IN THE ORCHID BUSINESS.**

**1986 — OUR SPECIAL YEAR**

We will be showing a large range of brand-new cultivars of cymbidiums, paphiopedilums, odontoglossums and zygopetalums at "ORCHIDS AUSTRALIA '86".

Visit our two hectares of orchids at:  
Briardale Road (off Sunvalley Road), O'Halloran Hill, South Australia



## **SPECIAL OFFER**

Australia's only patented  
orchid

### **SCOTT'S SUNRISE 'AURORA', HCC**

PAT. No. 532235

A very exciting intermediate  
cymbidium.

First exhibited 1985 it gained  
"Best Intermediate" —  
Open Section — seven spikes  
this year so look for it  
at the conference.

Mericlones 15 cm Leaf Length  
**\$20.00 each.**

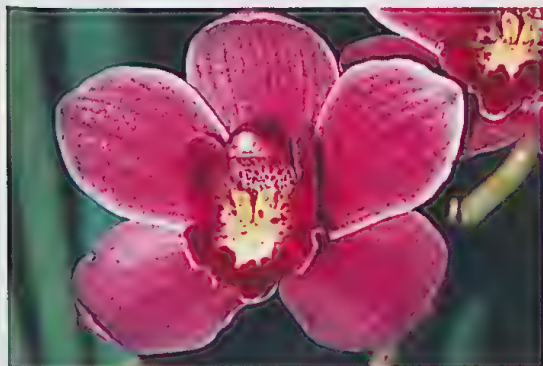
Bulb and Growth (Very Limited)  
**\$50.00 each.**

Few Large Plants in Spike  
**\$100.00 each.**

**(FREIGHT EXTRA \$10.00 FOR PLANTS  
IN SPIKE).**

# Orchids ANNIVERSARY

## SPECIAL GLAMOUR COLLECTION OF INTERMEDIATE CYMBIDIUMS



Mericlone 480

### **DINKY DI 'MISS AUSTRALIA'**

Possibly the most perfect pink yet seen. 12 blooms carried on self-supporting spikes on compact plant.



Mericlone 523

### **BUNNY GIRL 'BLONDE BOMBSHELL'**

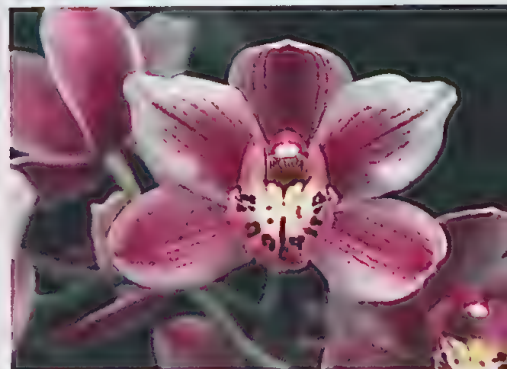
The roundest of blooms carried 14 per strong, self-supporting spike. Opening pale green and fading to clear white in seven days. Broad lip softly tipped in pink.



Mericlone 525

### **LUSTROUS DAMSEL 'DAPHNE'\***

\*Reg. applied for. Beautiful, bright blooms produced 16 per self-supporting spike.



Mericlone 530

### **OUR TOOTSIE 'ROSY BLUSH'**

Excellent bicolor that won Best Pink and Best Seedling at only showing. 14 blooms per strong, upright spike.

Above strong mericlones of 15 cm plus leaf length **\$12.50 each** or have the whole glamour collection for **\$40.00** post free in Australia.

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TELEPHONE: (08) 381 2011 (please add \$1.00 post)



# ORCHIDS AUSTRALIA '86 INTERNATIONAL ORCHID SHOW

## PRIZE SCHEDULE

**SECTION PRIZES: 1st PRIZE \$30, 2nd PRIZE \$20, 3rd PRIZE \$10**

### *Australian Natives*

- Best *Dendrobium* Species.
- Best *Dendrobium* Primary Hybrid  
(with *speciosum* or *kingianum*).
- Best Any Other Epiphytic Species.
- Best Any Other Epiphytic Hybrid.
- Best Terrestrial Species.
- Best Terrestrial Hybrid.
- Best Specimen Epiphyte.
- Best Specimen Terrestrial.

### *Cattleya and Allied Genera*

- Best Mauve.
- Best White.
- Best Yellow or Orange.
- Best Any Other Colour.
- Best Cluster Type.
- Best Novelty.
- Best Species (including those of the alliance CLBS).

### *Cymbidiums* — Standard

- Best Green.
- Best Pink.
- Best Red.
- Best White.
- Best Yellow.
- Best Pure Colour.
- Best Any Other Colour.
- Best Decorative.
- Best Export.
- Best Specimen.
- Best Seedling.
- Best Group of Three Different Colours  
judged for quality (white eligible).
- Best Group of Three Distinct Colours  
judged for intensity of colour NOT  
shape (white ineligible).

### *Cymbidiums* — Intermediate

- Best Green.
- Best Pink.
- Best Red.
- Best White.
- Best Yellow.
- Best Pure Colour.
- Best Any Other Colour.
- Best Specimen.

### *Cymbidiums* — Intermediate (Contd.)

- Best Seedling.
- Best Group of Three Distinct Colours  
judged for intensity of colour NOT  
shape (white ineligible).

### *Cymbidium* — Miniature (*Cut Spikes Ineligible*)

- Best Green.
- Best Pink.
- Best Red.
- Best White.
- Best Yellow.
- Best Pure Colour.
- Best Any Other Colour.
- Best Specimen.
- Best Seedling.
- Best Group of Three Distinct Colours  
judged for intensity of colour NOT  
shape (white ineligible).

### *Cymbidiums* — Miniature (*Cut Spikes Only*)

- Best Green/Yellow.
- Best Red/Pink.
- Best White.
- Best Pure Colour.
- Best Any Other Colour.
- Best Miniature *Cymbidium* — Cut Spike.

### *Dendrobium* — *Ceratobium* Type

- Best All Colours.

### *Dendrobium* — Intermediate Type

- Best Purple.
- Best White.
- Best White/Coloured Lip.
- Best Yellow, Bronze, Sunset.

### *Dendrobium* — *Phalaenanth* Type

- Best Bicolour
- Best Purple.
- Best White.

### *Dendrobium* — Softcane

- Best Red/Mauve.
- Best White.
- Best Yellow.

*Odontoglossum Alliance*

- Best *Miltonia* Hybrid.
- Best *Oncidium* Hybrid.
- Best *Odontoglossum* Hybrid.
- Best *Odontioda* Hybrid.
- Best *Wilsonara* and Other Intergenerics.

*Paphiopedilums*

- Best Green or Yellow.
- Best Red or Pink.
- Best Novelty (including *maudiae*).
- Best Spotted.
- Best Specimen.
- Best Species.

*Phalaenopsis*

- Best Pink.
- Best White/Yellow Lip.
- Best White/Coloured Lip.
- Best Any Other Colour.
- Best Novelty.
- Best Striped, Barred or Spotted.
- Best Intergeneric.

*Vanda Alliance*

- Best *Vanda/Ascocenda*  
(flowers up to 50 mm).

*Vanda Alliance (Contd.)*

- Best *Vanda/Ascocenda*  
(flowers over 50 mm).
- Best Intergeneric (other than above).

*Miscellaneous*

- Best *Lycaste* Hybrid.
- Best Species not elsewhere classified.
- Best Hybrid not elsewhere classified.
- Best Specimen not elsewhere classified.
- Best Seedling not elsewhere classified.

*Displays*

- Best Overseas Exhibit.
- Best Interstate Society Exhibit.
- Best Australian Commercial Grower —  
Small Exhibit.
- Best Australian Commercial Grower —  
Large Exhibit.
- Best Australian Non-commercial  
Grower — Small Exhibit.
- Best OCSA Affiliated Society —  
Small Exhibit.
- Best OCSA Affiliated Society —  
Large Exhibit.

## CHAMPIONSHIP CLASSES

## CLASS

## PRIZE

Grand Champion	\$1,000 cash — AOC plaque and OCSA sash
Reserve Champion	\$500 cash and OCSA sash
Champion Australian Epiphyte (species or hybrid)	\$50 cash and OCSA sash
Champion Australian Native Terrestrial (species or hybrid)	\$50 cash and OCSA sash
Champion <i>Cattleya</i> and Allied Genera	\$50 cash and OCSA sash
Champion Standard <i>Cymbidium</i>	\$50 cash and OCSA sash
Champion Intermediate <i>Cymbidium</i>	\$50 cash and OCSA sash
*Champion Miniature <i>Cymbidium</i>	\$50 cash and OCSA sash
Champion <i>Dendrobium</i>	\$50 cash and OCSA sash
Champion <i>Odontoglossum Alliance</i>	\$50 cash and OCSA sash
Champion <i>Paphiopedilum</i>	\$50 cash and OCSA sash
Champion <i>Phalaenopsis</i>	\$50 cash and OCSA sash
Champion <i>Vanda Alliance</i>	\$50 cash and OCSA sash
Champion Miscellaneous	\$50 cash and OCSA sash
Champion Display	\$50 cash and OCSA sash

\* CUT SPIKE INELIGIBLE.



**EXHIBITOR INFORMATION:**

1. Theme of the International Orchid Show is Pioneering Times.
2. A special helper will be provided as a liaison person between all interstate and overseas exhibitors and the show marshal. The helper will arrange the supply of foliage plants and staging materials, etc.
3. Exhibition space will be multiples of 3 m x 3 m modules with a choice of island, semi-island, wall and bench height areas. An indication of your preference for the type and number of modules that you require would be appreciated by May 31, 1986.
4. The backdrop for the wall exhibits is a 2.8 m high brick wall painted pale green with windows above. Any additional backdrops must be on self-supporting timber frames. Timber will be supplied on request.
5. Adequate electric lighting will be supplied. If power is required the cost is \$25 per outlet and notice is required by the end of May 1986.
6. All customs and quarantine clearance will be at Adelaide Airport providing that all boxes of flowers carry the official conference labels that will be provided.
7. If you have not reserved your commercial stand, please advise as soon as possible. The 3 m x 3 m pre-constructed modules are \$A300 each for the duration of the show. Additional lights and power cost extra. Twenty-five per cent deposit is required with your booking.

**Orchid Library of South Australia**

Russell Job, Monte Mazula, Forest Range, South Australia 5139.

The OCSA has a slowly-expanding audio tape and slide library. Any orchid-related club or society may borrow programmes for a nominal fee of \$12 with a \$2 discount for societies affiliated with OCSA.

The present 19 programmes cover a huge range of orchid topics. Some of the less-entertaining topics like nomenclature or judging can be made surprisingly interesting, and valuable, by having a commentator that has an experienced and intelligent affinity for that particular niche of Orchidaceae.

## *Stamp Dedication Ceremony and Forum*

On Thursday, September 18, 1986 Australia Post will issue four 33¢ stamps depicting orchids.

On the day of issue a stamp dedication ceremony will be held at the Hotel Adelaide at 1.00 pm. Special guests will include the president of the Australian Orchid Foundation, Mr Gerald McCraith, the designers of the stamps, Otto Schmidinger and Christine Stead and a representative from Australia Post.

Following the stamp dedication ceremony, there will be a series of lectures on stamps and a stamp forum. Entry to the lectures and forum will cost \$5 and includes afternoon tea. The lectures have been arranged by the Orchid Stamp Club International. Ian Chalmers will show slides of stamps and talk on the uses of computers in stamp collecting and orchid growing. Barry Collins, the president of the Orchid Stamp Club International will speak on the history of stamps and Robert Moon will speak of first-day covers, postal stationery and cancellations.

For the duration of the International Orchid Show being held in conjunction with ORCHIDS AUSTRALIA '86, a temporary post office will be set up in the commercial selling area of the show. Commemorative first-day covers will be available cancelled with a special ORCHIDS AUSTRALIA '86 postmark. There will also be first-day covers signed by special guests at the stamp dedication ceremony.

A large display of orchid stamps will be provided by the Orchid Stamp Club International and Otto Schmidinger and Christine Stead will be displaying silk-screen prints of the orchid stamp designs which will be available for sale.

For information about ORCHIDS AUSTRALIA '86 including registration brochures, news releases and information on the orchid stamps, please write to: The Conference Secretary, ORCHIDS AUSTRALIA '86, GPO Box 730, Adelaide, South Australia 5001. Phone (08) 258 3988.

## AFFILIATED SOCIETIES

The Orchid Club of South Australia is affiliated with 18 orchid clubs and societies throughout Australia. The advantages to these clubs are great. They are able to meet at affiliated societies meetings each year and discuss common problems. They are able to draw on the expertise of judges and administration in the Orchid Club of South Australia and can borrow slide programmes from the slide library at concessional rates.

NAME	CITY	STATE
Gawler Districts Orchid Club	Gawler	SA
Launceston Orchid Society	Launceston	TAS
Manning River Orchid Society	Taree	NSW
Mount Gambier and District Orchid Society	Mount Gambier	SA
Murray Bridge and Districts Orchid Society	Murray Bridge	SA
Native Orchid Society of South Australia	Findon	SA
Northern and Eastern Districts Orchid Society	Findon	SA
Orchid Society of New South Wales	Sydney	NSW
Port Augusta Orchid Club	Port Augusta	SA
Port Lincoln Orchid Club	Port Lincoln	SA
Port Pirie and Districts Orchid Club	Crystal Brook	SA
Riverland Orchid Society	Renmark	SA
South Australian Orchidaceous Society	Nailsworth	SA
South Coast Orchid Club of South Australia	North Glenelg	SA
Southport Orchid Society	Gold Coast Main Centre	QLD
Sunraysia Orchid Club	Mildura	VIC
Sutherland Shire Orchid Society	Jannali	NSW
Whyalla Orchid Club	Whyalla	SA

# JAPANESE ORCHIDS

THE BEST FROM JAPAN AVAILABLE IN ADELAIDE.

*Meet Harry Nagata in the Sales Area at the  
International Orchid Show.*

*Hear Harry talk on Japanese orchid growing at the  
conference lecture sessions.*

**ORCHIDS AUSTRALIA '86 — SEPTEMBER 19-23**

## NAGATA ENGEI

1 IMOHORI USHIDA-CHO, CHIRYO-SHI  
AICHI-KEN 472 JAPAN



## SPECIAL ANNIVERSARY PORT

ORCHIDS AUSTRALIA '86 have made available a special release of anniversary port. The port will only be available by prepayment. Payments must be made before you attend the conference and all purchases will be available for collection at the registration desk at the Hotel Adelaide.

The anniversary port is a 1978 vintage port produced by Kay Brothers at their winery at McLaren Vale, a highly-regarded winemaking area to the south of Adelaide.

In 1890 the Kay Brothers, Herbert and Frederick impressed by the magnificent area and suitable climate, planted their first vineyards and in 1895 made their first wine. Built from stone, quarried on the property, the original building is still in use and forms a functional part of the now much larger winery complex. Situated on steep-slopes looking east to the southern Mount Lofty Ranges, the winery constitutes the physical part of the fine tradition of the Kay Brothers and Amery Estate.

The port made from selected shiraz and grenache grapes grown on the harder, heavier soil was, after pressing, fortified with brandy spirit. It was bottled in May 1979.

The wine after one year possessed a deep, rich, purple, red hue and possessed a bouquet indicating a nice complexity of



fruit and brandy characteristics. On the palate all of the parts and the balance are present to indicate that this wine will ultimately develop into a fine vintage port.

The winemaker indicated that in his estimation the wine would reach optimum maturity about 1988, by which time it will have developed a crust.

This wine was first made available by the Orchid Club of South Australia in 1979 to commemorate the club's 40th anniversary. A suitable label was prepared to commemorate this occasion and is affixed to the bottles.

This anniversary port has indeed matured in a manner predicted by the winemaker and indicates that there is still further improvement continuing as the wine rests in the bottle.

To reserve your bottles, please send the attached order form and your remittance, \$10.00 per bottle, to the Secretary, ORCHIDS AUSTRALIA '86. The bottles will be available for collection at the registration desk.

### ANNIVERSARY PORT ORDER FORM

NAME.....

ADDRESS.....

.....

No. OF BOTTLES REQUIRED.....@ \$10.00

TOTAL ENCLOSED \$.....

# Food, Frolic and Fun

JILL TAYLOR

What would an orchid conference be without food, chatter, frolic, chatter, fun, chatter and, of course, talking to friends. ORCHIDS AUSTRALIA '86 will have all of that and something for all tastes.

The opening dinner on Thursday 18th, for the first 700 to register, will be held at the showgrounds, next door to the orchid show. From 6 pm all registrants will be able to wander amongst the exhibits, either gazing in envy of what others can grow or sipping a sherry with a friend. At 7 pm dinner will be served, buffet style in the Lancelot Stirling Hall. The opening ceremony will be performed during the meal, if the official table can get a word in edgewise.

On Friday there is a very interesting tour for orchid lovers and those not mad on orchids, but who have been dragged along anyway. A delightful bus tour around some of the south-eastern foothills and suburbs, ending at Carrick Hill in the suburb of Springfield. Carrick Hill was the home of Sir Edward Hayward, patron of the Orchid Club of South Australia until his death. His home and its valuable contents have been left to the State and was opened to the public by Her Majesty, the Queen on March 10, 1986. The house contains a rare collection of furniture from the middle ages. The furniture is very old and genuine — not reproduction as we so often see. Added to this is a very valuable collection of paintings, predominantly of the Impressionist School. Afternoon tea will be served in the magnificent gardens surrounding the mansion.

On Saturday night, the banquet will be held in the Hotel Adelaide banquet room. There will be drinks first on the mezzanine floor overlooking the city lights of Adelaide. Dinner will be served at round tables of 10, each hosted by an Adelaide couple. Again lots of talking time with soft music in the background, definitely not amplified music. There will be a place-name card for everyone. So this is the night to wear your best clothes, meet new people and make new friends during four delicious courses.

On Sunday, those not interested in native orchids or the Barossa Tour, can be entertained by local orchid members. These people are willing to show you around Adelaide or nurseries, and to have you home for a meal. Public transport and restaurants are at a premium in Adelaide on Sundays, so please don't be lonely or frustrated, there is no need, just contact the conference secretary through the registration brochure.

Aussie Night is a real fun night. Anything goes. Wear comfortables — an informal night. Stonyfell is one of our last-surviving wineries in the suburbs. The dinner will be served in an air-conditioned old barn lined with vats. We should be comfortable sitting at long tables, especially as we will be served — no buffet for this one. The menu is as Australian as we could make it, from

## ENFIELD ORCHIDS

(FORMERLY MICK RYAN'S ORCHIDS)

5 Taunton Avenue, Enfield, SA 5085

Phone: (STD 08) 262 2620

### Mini-mericlones:

#### SUMMER CLOUDS 'GOWAN DALE'

Upright, off-white, concolour labellum.

BULB AND LEAD — \$12.50

#### GOLDEN WHEEL (RUBY EYES x FIREWHEEL)

Brilliant yellow with red labellum. July show winner.

BULB AND LEAD — \$18.50

### Miniature Seedling Flasks:

#### STRATHDON 'ENFIELD' x SYLVANIA 'JUNE MONARCH'

Pink mini x superb tetraploid. May-June.  
Upright spikes.

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Outstanding cross for sunset shades. Upright  
spikes with large flower count.

MAXI FLASKS: \$42.50 — 25 PLANTS

MINI FLASKS: \$25 — 12 PLANTS

Available March 1986



roast lamb to lamingtons. There will be good old-fashioned entertainment during the night, something to please everyone. Choose whoever you would like to sit with, change around during the evening, just be happy and relaxed.

On Friday at the lectures, enjoy a light lunch of sandwiches, quiche, etc to save leaving the hotel. Also we have arranged for a light dinner to be served. Both these meals will need to be pre-booked as they will be served in the grand banquet room and not the normal restaurant. Again a chance to talk and mix with orchid people.

Sandwich lunches will be available at the Saturday and Monday seminar/lecture days at the Australian Mineral Foundation at a cost of \$4.00 per lunch.

There are no permanent eating facilities at the showground, so we are providing sandwiches, cake and drinks free of charge for out-of-town exhibitors during set up.

While the show is on, there will be an area where sandwiches, cakes, hot dishes and drinks can be purchased during the day.

So if you get tired pottering around, stop, relax, replenish and wander on. Decide what you will buy from the commercial stalls over a cup of tea. Change the camera film while having cake and coffee.

There is no excuse to be hungry, lonely or lost. Just ask at the hospitality desk at the Hotel Adelaide which will be open from Tuesday, September 16 until Friday, September 19 and you will be given all the help and information you require.

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V305 Sleeping Dream 'Tetra Gold'...\$12.00	V953 Celtic Imp 'Sharon', HCC.....\$12.00
V401 Katydid 'Veridian', HCC/OCSA ...\$12.00	V954 Wilpena 'Erna' .....\$12.00
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## MORE FOLKS YOU'LL LIKE TO MEET!

In the Autumn issue of the Australian Orchid Review, four members of the conference executive committee were featured. Now meet the rest of the committee.

### Conference Chairman — John Harris

John is one of the younger breed of orchid growers/administrators in South Australia. At 32, he has 13 years of orchid club administration behind him — OCSA secretary, committee member and vice-president, judge and twice secretary of the Australian Orchid Council. John is a life member of the OCSA and has been conference chairman since its first meeting in 1981.

John's hobby is cymbidium growing and he has received one AOC award. Married to Barbara, they have two young daughters — Alison, 3½ years-old and Diana, 18 months. Like all young children they keep him busy. John and Barbara met on a tour to the 9th World Orchid Conference in Bangkok in 1978, so orchids hold a very special place in their hearts.

### Conference Secretary — Margaret Hewitt

Margaret has the mammoth task of maintaining all the records and correspondence of the conference — a task shared by her retired husband, Gordon and facilitated by the marvels of their computer.

Daily, Margaret devotes time to the maintenance and update of the records. Her devotion has contributed greatly to the efficient management of our planning.

Margaret and Gordon share a common interest in cymbidiums, Australian native orchids and particularly phalaenopsis. She utilises many of her flowers in wedding bouquets and arrangements. They also have travelled extensively in South East Asia exploring orchids.

Margaret is currently treasurer of the Australian Orchid Council.

Her vibrant personality will be ever-present at the conference registration desk.

### Administration Committee Chairman — Reverend Elmore Leske

Elmore is a quiet man charged with overseeing the administration of the conference.

He is lecturer at the Lutheran Seminary and has a keen interest in cymbidiums and Australian native orchids. Elmore and his wife Pamela have been growing orchids for many years and have not lost their interest despite a couple of protracted study breaks in England.

You will meet Elmore and Pamela on the registration desk.

### Commercial Committee Chairman — Deane Johnston

Deane is another of the younger breed of orchid enthusiasts — he is a co-proprietor of Johnston's Orchid Nursery with his father Stan. Between them, they have been growing orchids, commercially, for many years and operate one of Adelaide's largest nurseries at Houghton. The nursery is a scheduled stop-over on the Northern Orchid Nurseries and Barossa Valley Tour, and presents a wide variety of orchid genera. Their speciality is phalaenopsis.

Deane is managing the commercial sales aspect of the international orchid show — a new initiative for Australian orchid conferences. Deane is a long-standing committee member and vice-president of the SA Orchidaceous Society and a judge of the OCSA.

He and his wife, Jenny, have travelled widely to many parts of the world studying developments in commercial orchid growing.

### Finance Committee Chairperson — Evelyn Cuming

Evelyn is the wife of our show marshal, Jim, and as they combine the two tasks in the one family we have a recipe for true commitment to the success of the conference.

As well as helping Jim with some of his show work, Evelyn maintains the finances for the conference, and is treasurer of the

**MORE FOLKS YOU'LL LIKE TO MEET! — Continued**

Orchid Club of South Australia. Evelyn is also a judge of the OCSA.

In their "spare" time, Evelyn and Jim conduct an orchid nursery concentrating on cymbidiums.

**Programme Committee Chairman —  
Syd Monkhouse**

Syd, as chairman of our programme committee, brings to this position a wealth of orchid experience and international standing.

Syd has over twenty years' continuous service to the OCSA committee as secretary, committee member, vice-president and president. He is a life member of the club, honorary fellow of the Australian Orchid Council and a member of the International Orchid Commission. He is one of the State's most experienced judges.

Syd and his family — Shirley, Stephen and Lynette conduct Adelaide Orchids at O'Halloran Hill, another of Adelaide's large nurseries. They offer a wide variety of genera but Syd's favourites are paphiopedilums, odontoglossums and miniature/intermediate cymbidiums. Adelaide Orchids will be a stop on the southern nurseries orchid tour.

In recent years Syd and Shirley have travelled extensively to international orchid events and venues. They bring that experience to the planning for this conference, which is reflected in the international flavour of the lecture programme.

**Promotions Committee Chairman —  
Bob Nicolle**

Bob is yet another of the "younger" breed involved in the conference. He is a proprietor of Valley Orchids at Reynella and has been growing orchids for over 15 years. His interest is "purely" cymbidiums, of which pure-colours are a speciality. Bob is a committee member of the OCSA.

Bob, his wife Maureen and three sons have travelled extensively overseas and around Australia.

Bob has the task of promoting the conference and show.

Valley Orchids is also a venue for the Southern Orchid Nursery Tour.

These are the key administrators responsible, with those published last issue, for the planning and conduct of the conference. Of course many other local identities will be participating and are assisting behind the scenes already. Everyone concerned with the conference is looking forward to presenting the very best in tours, facilities, prizes and hospitality. We all look forward to seeing and meeting as many orchid growers as possible, in Adelaide in September.

**NAME TAGS**

All registrants to **ORCHIDS AUSTRALIA '86** will be issued with a name tag when they collect their conference satchel. The name on the tag will be as specified on the registration form. To help registrants become acquainted all locals will have a white tag, interstate will have a yellow tag and overseas visitors will have a green tag.

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**ORCHIDS AUSTRALIA '86.**

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*'Enfield'*

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**SEEDLINGS 20 cm LEAF LENGTH — \$6.00 EACH**

**ADVANCED B/LEAD — \$10.00 EACH**

**JC246 Sarah Jean 'Karen' x Cariga 'Canary'**

*Expect golden yellows with red lips. July flowering.*

**JC242 Amesbury 'Frank Slattery' x Cariga 'Canary'**

*Expectation similar to Tricia Allen cross.*

**JC315 Pendragon 'Broadmoor' x Alnwick Castle 'Brentwood'**

*A top intermediate cross for exhibition and cut flowers. June-July flowering.*

**EC81 Sarah Jean 'Karen' x Alnwick Castle 'Dover Heights'**

*Once again yellow, early intermediates. One of this cross flowered in 1985 and was a splash petal.*



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Visitors were delighted last season and many orders for mericlones were taken.

Come and see this orchid for yourselves, plants are in spike.

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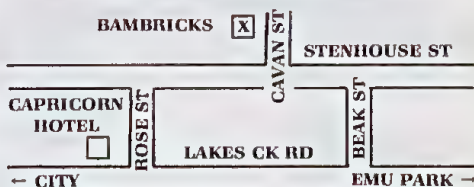


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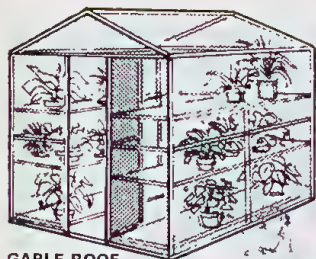
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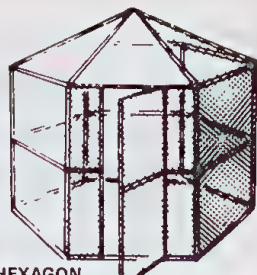


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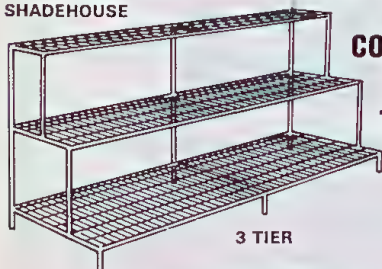
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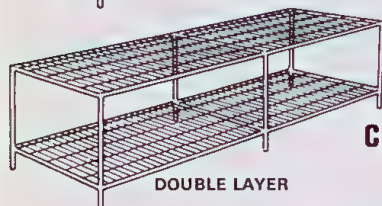
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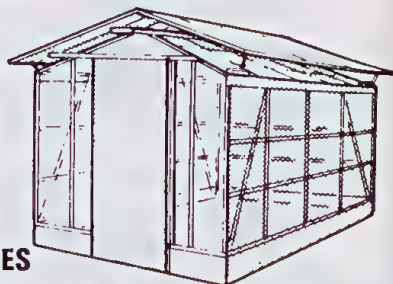
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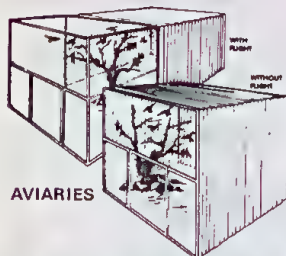
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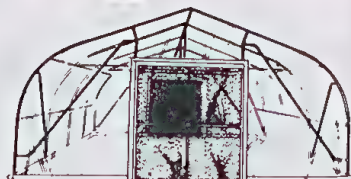
FLAT TOP  
BARROW

### PLANT TROLLEYS AND BARROWS

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PLANT TROLLEY



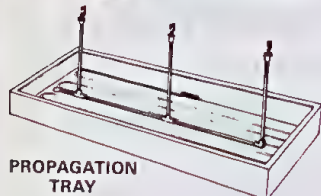
TUNNEL HOUSE

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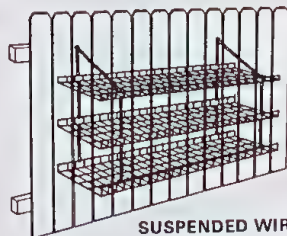
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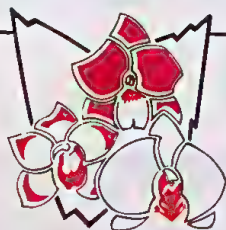
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| SS.1700 | ANTHURIUM BAKERI — <i>4½" pots</i> .....   | \$4.00  |
| SS.1010 | ANTHURIUM SCHERZERIANUM — <i>4½" pots \$4.00, 5½" pots \$6.00, 7" pots</i> ..... | \$8.00  |

## VANDAS

- |         |   |         |
|---------|---|---------|
| SS. 361 | V. LENAVAL 'POKAKULANI', AM/HOS x ASCDA. SUNKIST — <i>reddish-pinks</i><br><i>7" squat pots \$12.00, 7" deep pots</i> | \$15.00 |
| MS. 948 | V. SHIZUKANNO 'HILO' — <i>large dark blue, 5½" pots</i> .....   | \$20.00 |
| MS.1339 | V. MAMO x ASCDA. THONGLOR 'CARMELIA' — <i>wine red</i><br><i>4½" pots \$15.00, 5½" pots \$20.00, 7" deep pots</i>     | \$30.00 |
| MS.1341 | ASCDA. PEGGY FOO 'NODA' — <i>4½" pots \$20.00, 5½" pots</i> .....   | \$25.00 |
| MS.1466 | ASCDA. HAWAIIAN DELIGHT 'SILVA', AM/AOS — <i>4½" pots</i> .....   | \$15.00 |

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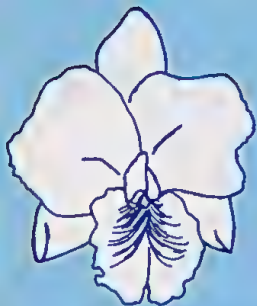
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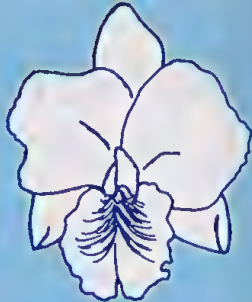
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- Slc. Yellow Doll x Slc. Hazel Boyd 'Apricot Glow'
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- Slc. Helen Veliz 'Orange Glow' x Slc. Madge Fordyce 'Fire Brigade'
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- Slc. Pumpkin Festival 'Fong Yuen'      Pot. Fortune Teller 'Mendenhall'
- Lc. Lisa Ann 'Magnificent Maroon'      Blc. Shellie Compton 'Touch of Class'
- L. pumila 'Black Diamond'      Pot. Naokazu 'Fireball'

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| Den. (Busaba 'Bangsaen' x Mollisa 'Bangsaen') x Paradise Pearl               | Den. Kultana x (Royal Purple x Kristen Ann)                                    |
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# ORCHIDS AUSTRALIA '86

## ADELAIDE, SOUTH AUSTRALIA

SEPTEMBER 17-23, 1986

### PROGRAMME

#### MONDAY — SEPTEMBER 15

Pre-conference Tour, September 15-17 — by bus to Cape Jervis through the Southern Vales vineyards and coast road to board ferry for Kangaroo Island: in the afternoon, visit historic sights, folk museum and see the eucalyptus oil stills.

#### TUESDAY — SEPTEMBER 16

Registration and Hospitality Desk (Hotel Adelaide). Pre-conference Tour continues to join a local enthusiast to view native terrestrial orchids in the scrub. South Coast Orchid Club meeting (Christies Beach).

#### WEDNESDAY — SEPTEMBER 17

Pre-conference Tour continues to Seal Bay to view the large colony of seals there at close quarters — Kelly's Hill Caves — lunch with the fauna in Flinders Chase — the remarkable rocks and return to Kingscote for return flight that evening. Includes all meals and transport costs. PRICE \$300.

Registration and Hospitality Desk. (Hotel Adelaide). Show Set-up lunch provided (Showgrounds). Orchidaceous Society Club meeting (Adelaide).

#### THURSDAY — SEPTEMBER 18

Judges' Breakfast (Showgrounds). Registration and Hospitality Desk (Hotel Adelaide). Show Judging (Showground). Cleland Park and Hahndorf Tour — Full-day tour. Meet some Australian native animals before taking lunch at the Old Mill at Hahndorf — view the sight of the first German settlement in Australia and enjoy visiting the many craft shops. PRICE \$25.

Orchid Stamp Dedication Ceremony, Lectures and Forum conducted by the Orchid Stamp Club. International (Hotel Adelaide). PRICE \$5.

Registrants' Preview (Showgrounds).

Official Opening Dinner (Showgrounds).

#### FRIDAY — SEPTEMBER 19

Registration and Hospitality Desk (Hotel Adelaide). Photographic Preview of Show (Showgrounds).

Lecture Session. Light lunch and dinner available (Hotel Adelaide). LUNCH \$10. DINNER \$18.

Show open to the public (Showgrounds).

City Sights — see the garden city nestling between the Mount Lofty Ranges and St. Vincent Gulf — afternoon tea at historic Carrick Hill mansion with its collection of antique furniture and French impressionist paintings. PRICE \$12.

#### SATURDAY — SEPTEMBER 20

Photographic Preview of Show (Showgrounds).

Orchid Judging Worldwide (AMF).

Show open to the public (Showgrounds).

Orchid Growing and Hybridising Worldwide (AMF)

RETURN TRANSPORT \$4. LUNCH \$4.

Grand Banquet (Hotel Adelaide).

#### SUNDAY — SEPTEMBER 21

Northern Orchid Nurseries and Barossa Valley Tour — Johnston's Orchids and Nesbitt's Native Orchid Nursery — lunch at Seppeltsfield Winery before returning through the picturesque Barossa Valley and Adelaide Hills. PRICE \$27.50.

Native Orchid Walkabout — your hosts are the Native Orchid Society of SA. Mini bus tours to view our terrestrial orchids in their natural environment — packed lunch will be provided. PRICE \$20.

Show open to the public (Showgrounds).

Home hospitality.

#### MONDAY — SEPTEMBER 22

Southern Orchid Nurseries Tour — visit Adelaide Orchids and Valley Orchids — picnic lunch provided. PRICE \$27.50.

Australian Orchid Council Annual Meeting (Hotel Adelaide).

Show open to the public (Showgrounds).

Aussie Night — an informal night of food, fun and frolic at Stonyfell Winery — transport included. PRICE \$35.

#### TUESDAY — SEPTEMBER 23

Repeat of Sunday's Northern Orchid Nursery and Winery Tour. PRICE \$27.50.

Australian Orchid Council Judging Seminar (AMF). Show open to the public (Showgrounds).

Seminar on cultivation of Australian terrestrial orchids conducted by the Australian Orchid Foundation (AMF). RETURN TRANSPORT \$4. LUNCH \$4.

Show Take-out.

Native Orchid Society of SA meeting.

#### WEDNESDAY — SEPTEMBER 24

Show Take-out.

Post-conference Tour No. 1 — Alice Springs and Ayers Rock. Fly direct to Ayers Rock — settle into your luxurious motel — in the afternoon tour the base of the monolith or climb to the top if you wish — photograph the sun setting behind the rock.

#### THURSDAY — SEPTEMBER 25

Show Take-out.

Post-conference Tour No. 1 continues — a visit to the Olgas, a unique rock formation then to Palm Valley to see the ancient flora there.

#### FRIDAY — SEPTEMBER 26

Post-conference Tour No. 1 continues — to Alice Springs to view local sights and the old Telegraph Station with perhaps a visit to the casino at night.

#### SATURDAY — SEPTEMBER 27

Post-conference Tour No. 1 concludes — fly to Sydney or return flight to Adelaide or return by coach to Adelaide with a stopover at Coober Pedy to inspect the largest underground opal field in the world.

#### SUNDAY — SEPTEMBER 28

Pre or Post-conference Tour No. 2 — River Murray Cruise leaving Adelaide only on Sundays returning on the following Saturday morning.

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Batemanian colleyii.

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<i>Encyclia mariae</i> x <i>Cattleya claesiana</i> var. <i>alba</i> — 25 seedlings.....	\$45.00
<i>Paphiopedilum bellatulum</i> var. <i>album</i> x self — 35 seedlings.....	\$150.00
<i>P. bellatulum</i> var. <i>album</i> x 'Prince', AM/AOS — 35 seedlings.....	\$75.00
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<i>P. (sukhakulii</i> x <i>acmodontum</i> ) x <i>philippinense</i> — 35 seedlings.....	\$50.00
<i>P. (sukhakulii</i> x <i>acmodontum</i> ) x <i>curtisii</i> 'Virginia' — 35 seedlings.....	\$50.00
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<i>P. villosum</i> — sibling cross of two superior forms — 35 seedlings.....	\$50.00
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WALLARA 'MADAM WU'

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*Large showbench pink with heavy maroon lip.*

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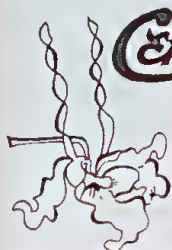
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# SHOW DATES, MEETING NIGHTS AND ADDRESSES

**ABBREVIATIONS.** Details have been shortened where no ambiguity is likely. After meeting day the words "of month" are implied. To save space reference to opening hours has been deleted, except that in some cases reference to early finishing is indicated. Example F4 means the show finishes at 4 pm of last day.

The list includes all available at time of going to press. Some societies have not completed arrangements in time. The address of the last-known secretary is given. Would societies please advise changes or additional information, also 1987 Autumn show dates.

## SOUTH AUSTRALIA

### ORCHIDS AUSTRALIA '86

*The year's greatest show.*

### SHOWGROUND ADELAIDE

Wed 17th to Tues 23rd, September, 1986

**BE THERE!**

Your hosts — Orchid Club of SA.

Orchid Club of SA. WINTER. St Peter's Town Hall, Payneham Rd, St Peters, Sat 12/7 to Sun 13/7. SPRING. Walter Duncan Hall, Wayville Showgrounds, Fri 5/9 to Sat 13/9. Sec: G. Heylen, 5 Richman Ave, Prospect 5082. Meets Aust Mineral Foundation, Conyngham St, Glenside, 1st Thurs.

Gawler OC. WINTER. TAFE College, Finjies St, Gawler. Sat 19/7 and Sun 20/7. SPRING. Elizabeth City Centre, Mon 29/9 to Sat 4/10. Sec: Mrs L. Howard, PO Box 32, Gawler 5118. Meets Elderly Centre, Gawler, 2nd Thurs.

Mt Gambier OS. Details not to hand.

Native OS of SA. SPRING. Goodwood Orphanage Hall, Goodwood Rd, Sat 13/9 and Sun 14/9. Sec: W. Harris, PO Box 565, Unley 5051, phone (08) 278 2917. Meets St Matthew's Hall, Bridge St, Kensington, 4th Tues (not Dec and Jan).

Northern and Eastern Dis OS. WINTER. St Philip's Parish Hall, Galway Ave, Broadview, Fri 18/7 and Sat 19/7. SPRING. Same venue Thurs 4/9 to Sat 6/9. Sec: Mrs I. Freeman, 33 Jakara Ave, Ingle Farm 5098, phone (081) 260 4863. Meets St Philip's Parish Hall, 3rd Thurs.

South Australian Orchidaceous Society. WINTER. Thebarton Assembly Hall, South Rd, Torrensview, Sat 26/7 and Sun 27/7. SPRING. Westfield Tea Tree Plaza, Woodbury, Mon 29/9 to Sat 4/10. Sec: Mrs E. Shawyer, 60 Balfour St, Nailsworth 5083, phone (08) 344 4260. Meets Deaf Society Hall, 262 South Tce, Adelaide, 3rd Wed.

South Coast OC. WINTER. Colonnades Shopping Centre, Noarlunga, Mon 21/7 to Sat 26/7. SPRING. Same venue Mon 29/9 to Sat 4/10. Sec: T. Howard, 21 Peregrine Cres, Christies Downs 5164. Meets Lutheran Church Hall, Windsong Court, Christies Downs, 2nd Tues.

## SOUTH AUSTRALIA — COUNTRY

Murray Bridge OS. SPRING. John Doehler Hall, Murray Bridge. Fri 19/9 and Sat 20/9. Sec: J. Gay. Meets Johnson Park Hall, 4th Fri.

Port Augusta OC. WINTER. Cooinda, cnr Commercial Rd and Flinders Tce, Thurs 21/8 to Sun 24/8. Sec: Dianne Hunter, PO Box 1752, Port Augusta 5700. Meets Dept Community Welfare, 4th Wed.

Port Lincoln OC. Meets last Fri except Dec and Jan. Eyre Peninsula Community College. Sec: K. Castley, PO Box 1333, Port Lincoln 5606.

Port Pirie OC. Meets 3rd Fri, Dept Community Welfare. Sec: B. Worden, 6 Eyre Rd, Crystal Brook 5523. Visitors and speakers welcome.

Riverland OS. SPRING. Loxton Agric and Hort Show. Set up Sun 12/10. Show Mon 13/10. Sec: Audrey Tshirpig, 30 Sixth St, Loxton 5333. Meets 2nd Sun, Senior Citizens Hall, Loxton.

Whyalla OS. SPRING. Westland Shopping Centre, Mon 29/9 to Sat 4/10. Meets Trades Hall, Hockey St, 3rd Wed. Sec: Mrs S. Sault, PO Box 566, Whyalla 5600.

## NSW — SYDNEY AREA

### ORCHID SOCIETY OF NSW

Winter Show. Mon 23rd to Sat 28th, June  
Ashfield Mall

### SPRING: SYDNEY TOWN HALL

Mon 22nd to Sat 27th, September

*Nostalgic return to the scene of some of the world's greatest orchid shows of the 1960's.*

*Not to be missed!*

Show marshal:

Ian Chalmers, 25 Turriell Point Rd  
Caringbah 2229. Phone (02) 525 7215

Admission: \$2.00

ANOS Warringah Group. Mona Vale Memorial Hall. Benchng Fri 5/9 to 10 pm. Sat 6/9, Sun 7/9 F4. Admission 60¢. Children and pensioners free. Marshal: B. Lowe, phone 44 3993.

Bankstown OS. WINTER. Bass Hill Plaza. Mon 7/7 to Sat 12/7. SPRING. Bass Hill Plaza, Mon 8/9 to Sat 13/9. Sec: K. Healey, 24 Bandalong Cres, Bangor 2234, phone 543 6735. Meets 1st Mon, Scottish Hall, Weigand St, Bankstown.

Berowra OS. SPRING. Community Centre, Gully Road, Fri 19/9 to Sat 20/9, 9-9. Sec: Mrs M. Barrett, 7 Cullenya Close, Berowra, phone 456 1764. Meets 3rd Thurs, Berowra Community Centre.

Blue Mountains and Hawkesbury Combined Show. WINTER. St Monica's Church Hall, cnr Bourke and Windsor Sts, Richmond, Sat 7/6 to Mon 9/6, F4.30. Details J. Lynch, phone (045) 79 6375.

Blue Mountains OS. SPRING. Sat 4/10 to Mon 6/10 F4. Melrose Hall, Great Western Highway, Emu Plains. Sec: D. Burns, PO Box 39, Emu Plains 2750, phone 31 4167. Meets 4th Fri, Melrose Hall.

Cumberland Orchid Circle. WINTER. Castle Towers Shopping Mall, Castle Hill, Thurs 17/7 to Sat 19/7. SPRING. Same venue Wed 3/9 to Sat 6/9. Mrs E. Lytle, 25 Bishop Ave, West Pennant Hills, phone 84 4711. Meets 4th Wed.

**Eastwood Orchid Circle.** SPRING. Masonic Hall, Mon 15/9 to Thurs 18/9. Sec: Mrs G. Spinner, 30 Providence Rd, Ryde 2112, phone 807 6727. Meets 1st Wed, Uniting Church Hall, Acacia St, Eastwood.

**Eastern Suburbs OS.** WINTER. St Luke's Church Hall, Varna and Arden Sts, Clovelly, Mon 16/6, 8-10 pm. SPRING. Same venue Mon 15/9, 8-10 pm. Sec: B. Collins, PO Box 131, St Pauls 2031, phone 398 6448. Meets 3rd Mon, St Jukes, Clovelly.

**Five Dock OS.** WINTER. Five Dock RSL Club, Great North Rd, Five Dock, Wed 23/7, 8-10 pm. Visitors classes, supper. SPRING. Marketown, Marion and Flood Sts, Leichhardt, Mon 29/9 to Sat 4/10. Sec: Mrs K. Jones, 48 Waremba St, Five Dock 2046, phone 713 8124. Meets 4th Wed except Dec, Douglas Hall, Great North Rd and Fairlight St, Five Dock.

**Hawkesbury OS.** SPRING. St Monicas Church Hall, Bourke and Windsor Sts, Richmond, Sat 6/9 to Sun 7/9 F4.30. Sec: J. Lynch, 35 Dorothy St, Freemans Reach 2756, phone (045) 79 6375.

**Manly-Warringah OS.** WINTER. Warriewood Shopping Centre, Thurs 29/5 to Sat 31/5. SPRING. Mona Vale Community Hall, Fri 29/8 to Sun 31/8 F4. Sec: R. Lazlauskas, PO Box 385, Dee Why 2099, phone 982 5924. Meets 4th Thurs, Cromer Community Centre, Fisher Rd, Dee Why.

**North Shore OS.** WINTER. Dougherty Centre, Chatswood, Wed 2/7, 8-10 pm. DISPLAY. National Australia Bank, opposite Martin Place, George St, Sun 20/7 to Fri 25/7. SPRING. Forest Way Shopping Centre, Wed 10/9 to Sat 13/9. Sec: Mrs R. Rudkin, 18 Lyle Ave, Lindfield 2070, phone 46 4306. Meets 1st Wed, Dougherty Centre, Chatswood.

**Panania-East Hills OS.** WINTER. Panania-East Hills RSL Club, Sports Pavilion, Tues 1/7, 7.30-10 pm. SPRING. Senior Citizens Centre, Anderson Ave, Panania, Sat 20/9, 10.30-5.30. Sec: N. Bates, 7 Oatley Place, Padstow Heights 2211, phone 772 2405. Meets 1st Tues, Panania (RSL) Club.

**Parramatta OS.** WINTER. Wentworthville Community Centre, Darcy Rd, Tues 22/7, 8-10 pm. SPRING. Stockland Mall, Merrylands, Mon 8/9 to Sat 13/9. Sec: G. Banks, 183 Windsor Rd, Northmead 2152, phone 639 4815. Meets 4th Tues, Wentworthville Community Hall, Darcy Rd.

**St George OS.** WINTER. Uniting Church Hall, Bay St, Rockdale, Tues 1/7, 8-10 pm. SPRING. Same venue, Tues 2/9, 8-10 pm. Visitor's class. Sec: Mrs J. Slattery, 12 Eddystone Rd, Bexley, phone 50 7985. Meets 1st Tues, Uniting Church Hall, Rockdale.

## SOUTHERN DISTRICTS COMBINED SHOW

Westfield Shoppingtown, Hurstville  
Mon 4/8 to Sat 9/8. Set up Sun 3/8.

Sec: Mr R. Edwards  
114 Coonong Rd, Gympie Bay 2227  
Phone 525 9623

St George OS, Sydney OS and Cymbidium Club of Australia.

**Sutherland OS.** WINTER. Gympie Bowling Club, Kingsway, Gympie. Sat 5/7 and Sun 6/7 F5. SPRING. Same venue Sat 13/9 and Sun 14/9 F6. Sec: Mrs G. Withers, 19 Davey Ave, Jannali 2226. Meets 2nd Mon, Gympie Bowling Club.

**Sydney OS.** WINTER. Remembrance Hall, 220 Lakemba St, Lakemba, Thurs 12/6, 8-10 pm. SPRING. Same venue Thurs 11/9, 8-10 pm. Sec: Mrs B. Clare, 75 Quigg St, Lakemba 2195. Meets 2nd Thurs.

**Western Suburbs OS.** SPRING. Woodstock Community Centre, Church St, Burwood, Sun 14/9, 11.30-5 pm. Sec: L. Gleeson, 87 Stoddart St, Lakemba, phone 759 5948. Meets 2nd Tues, Woodstock Centre.

## NSW — SOUTH

**Campbelltown OS.** WINTER. Macarthur Square shopping complex, Thurs 17/7 to Sat 19/7. SPRING. Same venue Thurs 18/9 to Sat 20/9. Sec: Mr T. Fish, 10 Yarrangobilly St, Heckenberg 2168. Meets 2nd Tues, Beverley Park Hospital, Rudd St, Campbelltown.

**Albury-Wodonga Orchid Club.** WINTER. With Wodonga Garden Club. St Johns Church Hall, High St, Wodonga, Sat 30/8, 1-5 pm. SPRING. Albury High School, Sat 11/10, 1-9 pm to Sun 12/10, 10-5. Sec: G. Milton, 665 Jones St, Albury 2640, phone (060) 21 4770. Meets 1st Tues, Terminus Hotel, Wodonga.

**Griffith OS.** SPRING. Wade High School, Sat 4/10 to Sun 5/10. Sec: Mrs B. Raphael, PO Box 225, Griffith, phone (069) 62 2201. Meets Griffith Women's Club, 1st Mon.

**Illawarra OS.** WINTER. Warrawong Shopping Centre, Thurs 17/7 to Sat 19/7. SPRING. Thurs 4/9 to Sat 6/9. A big show. Sec: T. Bradford, 91 Edgeworth Ave, Dapto, phone (042) 61 2260. Meets 3rd Tues, Legacy House, Market St, Wollongong.

**Leisure Coast OS (formerly Corramal OS).** No show details. Meets 2nd Wed, Corramal Masonic Hall, Railway St.

**Orchid Society of Canberra.** SPRING. Phillip College, Woden (tentative), Fri 26/9 to Sun 28/9. For details contact John Richard, 40 Boote St, Spence, ACT 2615, phone (062) 58 4184. Meets 1st Tues at Griffin Centre, Bunda St. Sec: Mrs G. Alford, 15 Edlington St, Fraser, ACT 2615.

**Shoalhaven OS.** WINTER. Presbyterian Hall, Nowra. Sat 19/7, 10 am - 8 pm. SPRING. Same venue. Fri 19/9 to Sat 20/9, 9.30 - 8. Sec: S. Crowther, 4 Amber Place, Bomaderry 2541, phone (044) 21 2449. Meets 1st Mon, Presbyterian Hall.

**Southern Riviera OS.** SPRING. Ulladulla Civic Centre, Sat 4/10 and Sun 5/10, both 9 am - 5.30. Sec: G. Smith, PO Box 124, Milton 2539, phone (044) 55 1098. Meets 2nd Mon, Kendall's Cottage, Ulladulla.

**Sapphire Coast OS.** WINTER. Kalaru Nursery, Snowy Mt Hwy, Sun 10/8, 9-4 pm. SPRING. Same venue Fri 3/10 and Sat 4/10 F4. Sec: M. Cochrane, 136 High St, Bega 2550, phone 2 2949. Meets last Thurs, Red Cross Rooms, Church St.

**South Coast OS.** WINTER. Westfield Figtree, Shoppingtown. Thurs 10/7 to Sat 12/7. SPRING. Same venue. Thurs 11/9 to Sat 13/9. Sec: P. Irvine, 28 Kilbirnie Place, Figtree 2525, phone (042) 28 6294. Meets 1st Mon, Uniting Church Hall, Corramal.

## NSW — NORTH

**Alstonville OS.** SPRING. Catholic Hall, Main St. Sat 6/9 and Sun 7/9 F3.30. Set up Fri 5/9. Sec: C. Howie, PO Box 51, Alstonville 2477, phone 28 0601. Meets 2nd Wed, C. of E. Hall.



**Byron OS. SPRING.** Mullumbimby. Fri 12/9 and Sat 13/9 F6. Sec: Mrs D. Dare, Brokenhead Rd, Byron Bay 2481, phone 85 3016. Meets 2nd Mon alternating Byron Bay, Bangalow and Mullumbimby.

**Casino OS. SPRING.** RSL Hall, Canterbury St. Fri 26/9 and Sat 27/9 F4.30. Sec: Mrs N. Anderson, PO Box 303, Casino 2470, phone (066) 62 3685. Meets Old Bowling Clubhouse.

**City of Lismore OS. SPRING.** Lismore City Hall, Ballina St. Sun 14/9 to Wed 17/9. Celebrating 40th anniversary. Sec: Mrs R. Muldoon, 21 Taylor Ave, Goonellabah 2480, phone (066) 24 1063. Meets Lismore Heights Bowling Club, 3rd Tues.

**Coffs Harbour OS. SPRING.** Coffs Civic Centre. Fri 12/9 to Sun 14/9 F2. Sec: S. Clemesha, Lot 6 Skinner Close, Avocado Heights, Woolgoolga 2456, phone (066) 53 6937. Meets 1st Thurs, Cavanbah Hall.

**Evans Head OS. SPRING.** Woodburn Memorial Hall, Sat 20/9 and Sun 21/9, both 8 - 5. Sec: B. Rose, 16 Cedar St, Evans Head 2473, phone (066) 82 4707. Meets 3rd Thurs, CWA Hall, Woodburn.

**Grafton OS. SPRING.** Silver Anniversary Show. C. of E. Parish Centre, Duke St. Fri 19/9 to Sun 21/9 F5. Sec: N. Skennar, PO Box 351, Grafton 2460, phone (066) 44 9593. Meets 3rd Wed, Senior Citizen's Rooms, Hockey St.

**Great Lakes OS. SPRING.** Forster Primary School. Fri 7.30 - 10 pm. Sec: Mrs M. Aldridge, 9 Hawke St, Tuncurry, phone (065) 54 9349. Meets 2nd Tues, Forster Primary School.

**Hastings River OS. SPRING.** CWA Hall, High St, Wauchope. Fri 26/9 to Sat 27/9 F6. Sec: Mrs J. Lester, PO Box 193, Wauchope, phone (065) 85 1502. Meets 2nd Fri, Uniting Church Hall, Hastings St.

**Nambucca Valley OS. SPRING.** Fri 5/9 and Sat 6/9 F6. Macksville Scouts Hall (tentative). Sec: B. Locke, 21 Jellicoe St, Macksville 2447. Meets 1st Mon, CWA Hall, Ridge St, Nambucca Heads.

**Port Macquarie OS. SPRING.** Settlement City shopping complex, Thurs 28/8 to Sat 30/8 F noon. Sec: G. Parkes, PO Box 928, Port Macquarie, phone (065) 83 3265. Meets 4th Wed, Masonic Hall, Grant and Burrawan Sts, Port Macquarie.

**Tamworth OS. SPRING.** K-Mart Plaza. Thurs 18/9 to Tues 30/9 F3.30. Sec: B. Schweitzer, 40 Kent St, Tamworth 2340, phone (066) 65 8041. Meets 3rd Wed, Centre for Continuing Education, Brisbane St.

**Tweed OS. WINTER.** Sunnyside Shopping Mall, Murwillumbah. Thurs 28/8 to Sat 30/8 F4. **SPRING.** Tweed City, South Tweed Heads. Thurs 25/9 to Sat 27/9 F4. Sec: D. Capner, Kiel Vale via Murwillumbah, phone (066) 72 1375. Meets 3rd Thurs, CWA Rooms, Queen St, Murwillumbah.

## NEWCASTLE AND CENTRAL COAST

**Newcastle OS. MATTARA SPRING SHOW.** St Andrews Church Hall, Church St, Mayfield. Thurs 4/9 to Sun 7/9 F6. Sec: Mrs J. Blackwell, 114 Springfield Ave, Kotara South 2288, phone (049) 57 2992. Meets 3rd Wed, Masonic Hall, Hanbury St, Mayfield.

**Newcastle Combined OS. WINTER.** Jesmond Shopping Centre. Wed 16/7 to Sat 19/7 F3. **SPRING.** Lake Fair, Mt Hutton, Wed 24/9 to Sat 27/9 F3. Sec: Mrs M. Parlour, 2 Kullaroo Rd, Charlestown 2290, phone (049) 43 7768.

**ANOS Central Coast. SPRING.** Scout Hall, Gertrude Place, Gosford. Sat 13/9 and Sun 14/9. Sec: Mrs D. Johnson, 158 Geoffrey Rd, Chittaway Point, phone (043) 88 1785. Meets 2nd Wed, Baptist Church Hall, York and Frederick Sts, East Gosford.

**Boolaroo OS. SPRING.** Stockland Centre, Jesmond. Thurs 18/9 to Sat 20/9 F3. Sec: B. Moore, 4 Catherine St, Kotara South 2288, phone (049) 43 3790. Meets Teralba Community Hall, 1st Wed.

**Gosford OS. WINTER.** Marketown, Gosford. Mon 7/7 to Sat 12/7. **SPRING.** Marketown Mon 8/9 to Sat 13/9. Sec: D. Wodson, PO Box 541, Gosford 2250, phone (043) 69 2343. Meets 4th Wed, Baptist Church Hall, York and Frederick Sts, East Gosford.

**Maitland & Coalfields OS. SPRING.** Sharton Motors Showroom, High St, Maitland (opposite Town Hall). Thurs 11/9 to Sat 13/9 F6. Sec: E. Hunt, 12 Windermere Rd, Lochinvar 2321, phone (049) 30 7300. Meets 2nd Thurs, Masonic Hall, George St, East Maitland.

## MELBOURNE AND VICINITY

**Maribyrnong OS. SPRING.** Old Shire Hall, cnr Kennedy St and Caldor Hwy, Keilor. Sat 18/10 and Sun 19/10 F5. Admission \$1, pensioners 50¢, accompanied children free. Meets 2nd Tues, Old Shire Hall. Sec: Dawn Davis, C/- PO, Elphinstone 3448, phone (054) 73 3382.

**Maroondah OS.** For details contact sec: B. Ralston, 16 Linlithgow St, Mitcham 3132, phone 874 7518. Meets Vermont High School, Morack Rd, 3rd Fri.

**Melbourne Eastern OS. WINTER.** St Johns Hall, Burke Rd, Camberwell. Mon 28/7. **SPRING.** Mechanics Institute, Drummond St, Oakleigh. Wed 1/10 to Sun 5/10. Autumn '87, St Johns Hall, Mon 27/4. Sec: R. McHutchison, 1 Highfield Rd, Chadstone 3148, phone (03) 277 1995. Meets St Johns Hall, last Mon.

**Mornington OS. SPRING.** Assembly Hall, Karingal High School, Ashleigh Ave, Frankston. Sat 11/10 and Sun 12/10. **AUTUMN '87.** Same venue, Sat 2/5 and Sun 3/5. Sec: M. Blair, 40 Ninth Ave, Rosebud 3939. Meets Karingal High School, 4th Fri, phone (059) 86 8989.

**Orchid Species Society of Victoria. SPRING.** Sat 20/9 and Sun 21/9. Nunawading Hort Centre, 82 Jolimont Rd, Forest Hill. Sec: Miss J. Burke, PO Box 303, Bentleigh East 3165. Meets 2nd Mon, Nunawading Hort Centre.

**Ringwood OS. SPRING.** Eastland Shopping Centre, Maroondah Hwy, Ringwood. Mon 29/9 to Sat 4/10. Sec: Mrs L. Duffield, 28 Dudley St, Mitcham 3132, phone (03) 874 7830. Meets 1st Tues, Maroondah High School.

**Warringah OS. WINTER.** Heidelberg Masonic Temple, Lower Heidelberg Rd, Wed 16/7, 8 pm. **SPRING.** Heidelberg Technical School Hall, cnr Waterdale Rd and Bell St, Sat 11/10 and Sun 12/10. Sec: Mrs M. Murray, 60 McArthur Rd, East Ivanhoe 3079. Meets Heidelberg Masonic Temple, 1st Wed.

## VICTORIAN COUNTRY

**Ararat OS. SPRING.** Ararat Town Hall, Fri 10/10 to Sun 12/10. Sec: R. Selwood, Picnic Rd, Ararat 3377. Meets Church of Christ Hall, 2nd Fri.



**Gippsland Orchid Club.** WINTER. St Marys Church Hall, Sale. Sat 30/8 and Sun 31/8. SPRING. Civic Centre, Gray St, Traralgon. Sat 4/10 and Sun 5/10. Sec: H. Jacobs, PO Box 110, Stratford 3862, phone (051) 45 6371. Meets at Traralgon, 2nd Wed.

**Geelong Orchid and Foliage Plant Club.** SPRING. Centenary Hall, Norlane. Sat 27/9 and Sun 28/9. Sec: L. Dale, 88 Albert St, Geelong West 3218, phone (052) 9 7906. Meets St John Hall, 161 Myers St, 1st Thurs.

**Goulburn Valley Orchid Club.** SPRING. Shepparton Civic Centre. Sat 4/10 and Sun 5/10. Sec: S. Barton, PO Box 387, Shepparton 3630, phone (058) 21 3246. Meets RSL, Wyndham St, 1st Thurs.

**Horsham OS.** SPRING. Display Horsham Agric Show. Wed 1/10 and Thurs 2/10. Sec: H. Pohlner, PO Box 153, Dimboola 3414, phone (053) 89 1747. Meets Wesley Hall, 3rd Thurs.

**Midlands OS.** SPRING. Library Hall, Barker St, Castlemaine. Fri 24/10 to 26/10. Sec: Mrs J. McEwan, PO Box 264, Castlemaine 3450, phone (054) 43 0459. Meets RSL Hall, 2nd Tues.

## WESTERN AUSTRALIA

**Orchid Society of WA.** WINTER. Garden City Shopping Centre, Booragoon. Wed 9/7 to Sun 20/7. Set up Tues 8/7 evening. SPRING. Same venue. Wed 17/9 to Sat 20/9. Set up Tues 16/9. Sec: Mrs L. Dodds, phone 450 3472. Meets Inst of Engineers Hall, 712 Murray St, West Perth, 4th Fri.

**Albany OS.** SPRING. Finns Supermarket Mall, Hardie Rd, Spencer Park. Thurs 17/7 to Sat 19/7. SPRING. Same venue. Thurs 2/10 to Sat 4/10. Sec: A. Newman, phone (098) 41 3383. Meets Education Resources Centre, 4th Wed.

**Bunbury OS.** Venues not notified. WINTER. Thurs 24/7 to Sat 26/7. SPRING. Thurs 25/9 to Sat 27/9. Sec: R. Harwood, phone (097) 21 6469. Meets 1st Tues, Walker Memorial Hall, Oakley St.

**Geraldton OS.** DISPLAY. Northgate Shopping Centre. Thurs 16/10 and Fri 17/10. Sec: Mrs V. Connolly, 4 Koolana St, Bluff Point, Geraldton 6530.

**Melville OS.** WINTER. Roy Edinger Centre, Stock Rd, Palmyra. Sat 19/7 and Sun 20/7. SPRING. Same venue Sat 6/9 and Sun 7/9. Sec: R. Hunt, PO Box 53, Melville 6156, phone (09) 33 0376. Meets 2nd Thurs, Roy Edinger Centre.

**Northern Districts OS.** WINTER. Mirrabooka Shopping Centre. Mon 7/7 to Wed 9/7. SPRING. Norlet Shopping Centre. Thurs 2/10 to Sat 4/10. Sec: D. Sleight, phone 229 7614. Meets Alf Faulkner Hall, cnr Mary Cres and Ivanhoe St, Eden Mill, 4th Mon.

**Native Orchid Study and Conservation Group.** Meets Lecture Theatre, Kings Park Board, West Perth, 3rd Wed. Sec: S. Van Leeuwen, 18 Jennings Way, Lockridge 6054, phone 378 1278.

**Wanneroo OS.** SPRING. Whitford City Shopping Centre. Thurs 11/9 to Sat 13/9. Sec: Terry Larson, 20 Channel Drive, Heathridge 6027, phone (09) 401 8624. Meets Wanneroo Civic Centre, 3rd Thurs.

## TASMANIA

**Tasmanian OS.** SPRING. Town Hall, Macquarie St, Hobart. Fri 3/10 to Sun 5/10. Sec: J. Smith, 11 Warren Court, Howrah 7018, phone (002) 44 1555. Meets Legacy House, 159 Macquarie St, 4th Mon.

**Devonport OS.** SPRING. Spreyton Hall. Fri 3/10 to Sun 5/10. Sec: Mrs G. Smith, RSD 793 Kindred 7310, phone (004) 29 3198. Meets Lyons Library, Fenton St, Devonport, 3rd Thurs.

**Launceston OS.** ORCHID WORKSHOP. Windmill Hill Hall, High St, Sat 30/8. SPRING SHOW. Wed 3/9 to Fri 5/9. Sec: Mrs B. Callerley, 24 Summerdale Grove, Launceston 7250. Meets 3rd Tues, War Memorial Hall.

**Orchid Society of Nor-West Tasmania.** SPRING. Fri 10/10 to Sun 12/10, Burnie Civic Centre. Marshal: P. Jackson, PO Box 158, Somerset 7322, phone (004) 35 1868. Meets Hellyer College, Burnie, 1st Wed except Jan.

**Scottsdale OS.** SPRING. Mechanics Hall, Thurs 25/9 to Sat 27/9. Sec: Mrs Peg Kendall, George St, Scottsdale 7254. Meets Kendall's house, 3rd Thurs.

## QUEENSLAND — BRISBANE AND VICINITY

**Queensland OS.** SPRING. City Hall, King George Square, Brisbane. Fri 3/10 to Sun 5/10. Sec: Mrs N. Parsons, GPO Box 2002, Brisbane 4001. Meets Senior Citizen's Centre, Fortitude Valley, Brisbane, 2nd Mon.

**Caboolture OS.** SPRING. Bribie Island RSL, Sat 25/10 and Sun 26/10. Sec: Mrs B. Ware, PO Box 549, Caboolture 4510. Meets Combined Services Hall, Hayes St, 1st Wed.

**Darling Downs Orchid Association.** SPRING. TAFE College, Neil St, Toowoomba. Sat 20/9 to Sat 27/9 during Carnival of Flowers. Sec: Mrs S. Stone, PO Box 3216, Town Hall PO, Toowoomba, phone (076) 32 6513. Meets Scout Hall, Ruthven St, 3rd Thurs.

**Eastern Districts OS.** SPRING. Wondall Heights School, Wondall Rd. Pres: N. Marshall, 18 Gladdy St, Capalaba 4157. Meets Wondall Heights School, 4th Thurs.

**Ipswich Orchid Society.** SPRING. Old RSL Hall, Nicholas St, Ipswich. Sat 6/9 to Sun 7/9. Sec: Gwen Stumer, PO, Mt Crosby 4305, phone (07) 201 0126. Meets at Humanities Centre, cnr Nicholas and South Sts, Ipswich, 1st Wed.

**Ipswich OS.** SPRING. St Pauls War Memorial Hall. Thurs 11/9 to Sun 14/9. AUTUMN '87. Same venue Thurs 16/4 to Sun 19/4. Sec: G. Freeman, 3 Matthew St, Rosewood 4340, phone (075) 64 1776. Meets Ipswich Humanities Bldg, 4th Fri.

**John Oxley OS.** WINTER. Mt Coot-tha Botanical Gardens Auditorium, Sat 26/7 and Sun 27/7. Set up Fri 25/7 from 2 pm. Sec: Mrs J. Imray, PO Box 205, Corinda 4075. Meets Uniting Church Hall, Oxley Rd, Sherwood, 2nd Wed.

**Native OS of Queensland.** Does not stage shows but displays at many other societies. Sec: June Crane, 17 Rylatt St, Indooroopilly 4068. Meets Bread House, 49 Gregory Tce, Brisbane, 1st Mon.

**Noosa OS.** SPRING. Fri 22/8 and Sat 23/8, Noosaville.

**Logan and Albert OS.** SPRING. Zamia Theatre, North Tambourine. Sat 20/9 and Sun 21/9. Sec: N. Goeldner, 12 Birnam St, Beaudesert 4285, phone (075) 41 2389. Meets CWA Hall, Beaudesert, 3rd Wed.

**North Albert and District Orchid Society.** SPRING. Oldmac Motors, Pacific Hwy, Springwood. Tues 30/9 to Sun 30/11. Sec: Mrs Margaret Tierney, PO Box 411, Woodridge, Queensland 4114, phone (07) 341 5174. Meets at Woodridge High School, 3rd Tues at 7.30 pm.



**Orchid Species Society. SPECIES SHOW.** Mt Coot-tha Botanical Gardens Auditorium. Sat 13/9 and Sun 14/9. Orchids and carnivorous plants. Open to exhibitors from other societies. Photo slides competition. Meets 3rd Mon, Mt Coot-tha. Sec: A. Robinson, 10 Talegata St, Lindum 4178.

**Sunshine Coast Orchid Society. WINTER.** Civic Cultural Centre, Minchinton St, Caloundra. Thurs 3/4 to Sat 5/4. **SPRING.** Same venue. Fri 19/9 to Sat 20/9. **AUTUMN '87.** Thurs 23/4 to Sat 25/4. Sec: Mrs A. Wain, PO Box 279, Caloundra 4551, phone (071) 91 4183. Meets at CCSA Hall, Nutley St, Caloundra, 3rd Fri.

**Toowoomba OS. WINTER.** Red Cross Hall, Toowoomba; Fri 25/7. **SPRING.** Myer rooftop, Mon 22/9 to Fri 26/9. Sec: F. Simpson, 46 Wentworth St, Toowoomba 4350. Meets Red Cross Hall, 4th Fri except Sept-Dec.

**West Brisbane OS. SPRING.** Mt Coot-tha Botanical Gardens Auditorium. Sat 27/9 and Sun 28/9. Sec: Mrs R. Ozanne, 105 Bowman Pde, Bardon 4065, phone (071) 38 1240. Meets Bardon Uniting Church Hall, 4th Wed.

**Wynnum-Manly OS. SPRING.** RSL Hall, Melville Tce, Manly. Sat 27/9 to Sun 28/9. Marshal: R. Moores, PO Box 91, Manly. Meets RSL Hall, 3rd Wed, 8 pm, 3rd Mon, 9.30 am.

## NORTH QUEENSLAND

**Atherton Tableland OS. WINTER.** Atherton Agricultural Show, Mon 7/7 and Thurs 7/8. **SPRING.** Sec: D. Drury, PO Box 427, Atherton 4883, phone (070) 91 1261. Meets CWA Hall, Atherton, 1st Thurs.

**Ayr OS.** Sec: Mrs A. Tait, PO Box 412, Ayr 4807.

**Blackwater OS.** Pres: Mr B. McGraph, PO Box 391, Blackwater 4717, phone (079) 82 5223.

**Bowen OS.** Sec: M. Gordon, PO Box 726, Bowen 4505, phone 86 2846. Meets 1st Thurs, RSL Hall, Bowen.

**Boyne Tannum OS. SPRING.** Probably Thurs 18/9, Fri 19/9 and Sat 20/9. Woolworths Shopping Plaza, Boyne Island. **AUTUMN '87.** Probably week before Easter at Professionals Real Estate Building, Tannum Sands. Sec: D. Bundesen, PO Box 159, Tannum Sands 4680, phone 73 8236. Meets CWA Hall, Tannum Sands, 1st Thurs.

**Bundaberg OS.** Sec: Mrs C. Tait, phone (071) 79 2258.

**Gladstone Orchid and Foliage Society. SPRING.** Kin Kora Shopping Mall. Thurs 9/10 to Fri 10/10. **AUTUMN '87.** Anderson Motors. Noon Good Friday, Easter Saturday, Sunday and Monday till noon. Sec: Neva Merritt, PO Box 867, Gladstone 4680, phone (079) 78 2408. Meets 1st Wed at 7.30 pm.

**Gladstone OS.** Sec: Mrs N. Merritt, PO Box 867, Gladstone 4680. Meets Bowls Club Hall, 1st Wed.

**Hervey Bay OS.** Sec: Mrs W. Moffet, PO Box 26, Pialbo, phone 28 1597.

**Mackay OS. SPRING.** Canelands Shoppingtown. Thurs 11/9 to Sat 13/9. Sec: Mrs J. Gray, PO Box 776, Mackay 4740, phone (079) 42 4618. Meets Gem and Craft Hall, 3rd Thurs.

**Rockhampton OS. SPRING.** St Pauls Cathedral Hall. Possibly 3rd weekend Sept. Meets 4th Tues, Uniting Church Hall, North Rockhampton. Sec: D. Pass, PO Box 5949, RMC 4702, phone 28 7477.

**Townsville OS. SPRING.** Townsville City Hall. Fri 19/9 to Sun 21/9 F5. Sec: Mrs T. Keith, PO Box 83, Townsville 4810, phone (077) 78 6460. Meets 3rd Tues, Townsville OS Hall, Pioneer Park, Kirwan.

**Townsville Orchid and Allied Plants Association. SPRING.** Nathan Plaza, Aitkenvale. Thurs 30/10 to Sat 1/11. Sec: W. Summers, 38 Croft St, Heatley 4814, phone (077) 79 2178. Meets OES Hall, Ingham Rd West End, 3rd Tues.

**Tully OS.** Venue problems preclude Spring Show. Sec: A. Euston, PO Box 548, Tully 4854, phone (070) 68 1545 after hours. Meets CWA Hall, 2nd Mon.

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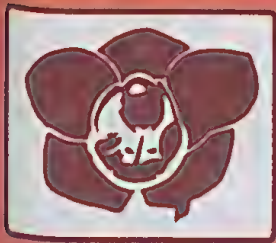
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NSW 2049. Phone: (02) 560 6166.

Advertising and Subscriptions to Michael Santer, Publications Manager:  
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SUBSCRIPTIONS: 1986/1987 within Australia \$A37.00, 1986 \$A20.00.

Overseas surface: 1986/1987 \$US37.00, 1986 \$US20.00.

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Published by

PRINTCRAFT PRESS PTY LTD

14 McGill Street, Lewisham 2049. 560 6166

Printed by



14 McGill Street, Lewisham 2049. 560 6166. Telex AA127936

The publishers of the *Australian Orchid Review* financially support  
the Australian Orchid Council.

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# Australian Orchid Review

NATIONAL HERBARIUM  
OF  
VICTORIA

30 SEP 1986 SPRING 1986

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VOLUME 51 — No. 3

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## COVER STORY

### A SUBJECT SO BEAUTIFUL:

Ron Kerr interviews the designers of the exciting new Orchid Stamp Issue, Christine and Otto Stead. See page 32 for the full interview and page 34 for descriptive details of the orchids used for the designs of these beautiful stamps.

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To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in *italics*. In society bulletins and on place-cards *italics* can be indicated by underlining.



# SANTA BARBARA ORCHID SHOW '86

*The mecca takes a battering*

Kevin Hipkins



A good example of *Cym. Zaskar*

Santa Barbara is in the heart of Southern California, 150 km north of Los Angeles and 550 km south of San Francisco. Its natural beauty begins at the shoreline, with lovely, palm-lined beaches and continues upward through the foothills, a majestic display of the traditional Spanish/Mexican influence in architecture, to the coastal mountains which protect her from weather extremes and provide ideal conditions for the orchid industry.

Santa Barbara, mecca of the American cymbidium, took a battering from Great Britain's premier hybridiser, Mr Keith (The Baron) Andrew.

Having scant regard for some of the

world's largest growers and hybridisers, he proceeded to sweep all before him.

Even though the show was not of the usual high standard in respect of quality cymbidiums, history was created as firstly, an exhibitor from another country won Grand Champion, then an intermediate cymbidium gained Grand Champion over the usual standard cymbidium.

In what must be Keith Andrew's greatest achievement in a long and successful career, this year's show realised:-

- (1) Grand Champion — Int. *Cymbidium* Devon Lord 'Viceroy'
- (2) Castator Award — *Cymbidium* Eastern Veil 'The Taj Mahal'

(3) Hudlow Awards — for achievement in developemnt of the *Cymbidium devonianum* line of breeding

(4) Awards — 3 AOS awards and 2 CSA awards

The Grand Champion, Int. *Cym. Devon Lord* 'Viceroy', AM/AOS, BM/CSA is beautifully rounded, tangerine brown in colour and carries 10 blooms. *Cym. Eastern Veil* 'The Taj Mahal' (Roi Soleil x Mem. Doctor Borg) was a truly magnificent standard, orange in colour with about 10 well-rounded blooms. This clone won the Castator award for the most beautiful cymbidium of the show.

Just on 10 years ago, a cross of *C. Western Rose* x *C. devonianum* was registered as *Cym. Bulbarrow*. It caused a sensation then, so it was rather timely that we should be introduced to the latest creation from 'The Baron' — *Cymbidium Zaskar* (Srinagar x *devonianum*). You could say this cross was bred in the purple, with *Cym. Srinagar*'s parents being *Cym. Rosanna* 'Pinkie' x *Chiron. Cym. Zaskar* 'The Queen' received an HCC/AOS and *Cym. Zaskar* 'Indian Bride' received an HCC/AOS, BM/CSA. Both plants displayed the traditional devonianum characteristics of pendulous spikes, contrasting labellums and varieties of pink colour.

Displays of note were staged by Orchids Royale, with large and varied displays of cymbidiums, miltonias and paphiopedilums which received a total of six awards. Orchids by Rowe (including Keith Andrew Orchids and Burnham Nurseries) gained first place and received seven awards.

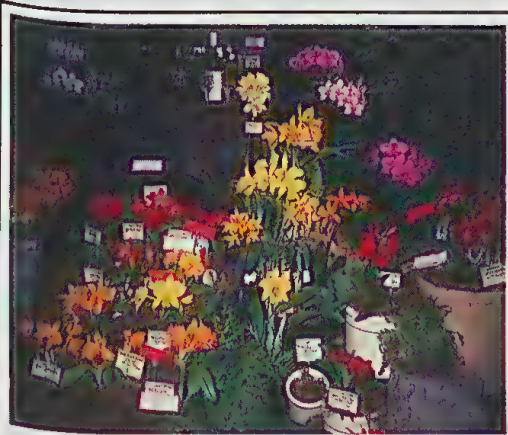


Grand Champion Int. *Cym. Devon Lord* 'Viceroy', AM/AOS, BM/CSA

Other orchids worthy of note were: *Cym. (Sussex Dawn* x *Cleo Sherman)* 'Frae', BM/CSA and *Oda. Zorkola* 'Mars', HCC/AOS exhibited by Sequoia Orchids; *Cym. Via Nogales* 'Braden', HCC/AOS, BM/CSA which also picked up Reserve Champion and *Cym. (Claude Pepper* x *Tapestry)* 'Krakatoa', HCC/AOS, BM/CSA, a beautifully formed large rich red, both exhibited by The Gallup and Stribling Company.

Because the show was scheduled a month later than usual, many growers' collections had peaked, a mere 42 American Orchid Society Awards, nine of which were Awards of Merit and 33 HCC's, were presented. The Cymbidium Society of America was not as lavish with its awards. Only 15 were presented with no gold or silver awards, very unusual for a show of this calibre.

Highlights of the proceedings were the presentation to Keith Andrew of the much-revered Jack Hudlow Medal by the CSA and a very rare after-dinner speech by Andy Easton, which saw Andy deliver a serious speech, instead of his usual strip-o-gram or fat-o-gram.



Fordyce Orchids display at Santa Barbara



# Twelfth World Orchid Conference

TOKYO, MARCH 14-25, 1987

Any orchid conference is the nicest way to see a country and be on instant friendly terms with the people you meet. The World Conference in Japan is only months away.

The Orchid Society of NSW has organised a tour in association with Jetaway and Qantas which covers a wide and fascinating coverage of Japan and China.

Participants will leave by Qantas in time to arrive for registration and show setting up. Accommodation has been reserved in the Century Hyatt luxury hotel, the conference headquarters. Except for the show all functions are at this hotel.

Conference chairman Mr Yosito Sinoto has a large and enthusiastic group working with Japanese efficiency to ensure the comfort and enjoyment of all participants. "I believe", he writes, "the opening of the conference in Japan will provide the best opportunity to introduce Japanese culture and orchids to the people of participant countries, as well as serve as a significant arena for international cultural exchanges".

Judging takes place on Tuesday, March 17, and there is a welcoming party that night. On Wednesday the show will be open to registrants only. Then to the public until March 25.

Over this period there will be day tours to gardens, nurseries, historic sites and shrines. Tokyo is an intriguing place to explore. Huge and fascinating underground shopping arcades are full of quaint shops and inexpensive restaurants. Theatres and other entertainments too.

You will have a wide choice of things to do in between the lectures and other proceedings of the conference.

The tour leaves for Beijing, once known as Peking, to see such sights as the Forbidden City, once the domain of emperors. Then north to the Great Wall. Next stop is Quilan in South China, followed by two days in Hong Kong.

The tour takes 25 days. Cost will be around \$4,000 plus incidental expenses. Conference registration is \$100 per person

if paid before December 31, 1986, \$120 thereafter.

For further details contact Mr W. (Bill) Smoothey, 15 Merlin Street, Roseville, NSW 2069. Phone (02) 46 2567.

For Japanese data and provisional registration (don't pay until you have definitely decided to go) contact: The Secretary, World Orchid Conference Secretariat, C/- Nippon Press Center Building, 2-2-1, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100, Japan.

Other tours are in prospect and it is hoped to publish these in the next issue. One such is that to be conducted by Margaret Price in conjunction with Horizon Travel, Commercial Building, Railway Street, Mudgeeraba, Queensland 4213. Phone (075) 30 4755. This is a well-organised tour conducted by Margaret Price, an Australian living in Tokyo.

Margaret knows orchids and Japanese nurseries. Her father is the well-known Mr Rod Price who conducts an orchid flaking service at Mudgeeraba. The tour will last 17 days, with options to extend to Hong Kong or Hawaii. Cost without the options will be around \$3,250, depending on the exchange rate at time of payment. A cheaper package covering air fare and accommodation only is available for around \$1,750.

## Sunburnt Plants

An old recipe for saving your orchid plant after being burnt by the sun is to saturate water with sugar and liberally cover all the plant with this solution. The sugar-water will seal the burnt plant tissue from invading fungi and bacteria, will stop dehydration of the plant, and will allow the root system to take up nourishment. I have seen phalaenopsis plants burnt brown by the sun, and after treatment with sugar-water and put in a darker spot most survived and grew.

Ben Matthews in  
Caboolture *Les Orchidaes*.

# NEW SOCIETY TO HOLD INAUGURAL ORCHID SHOW

The newly formed Cymbidium Society of America Australian Chapter Inc will hold its inaugural Spring Show at Brimbank Park, Keilor this month (26 - 28th September).

Visiting Cymbidium Society of America judges will officiate at the Show, which will see a Champion Orchid of the Show prize — cymbidium or paph. — of \$1000 plus a sash.

While the CSAACI's formation has raised quite a few local eyebrows, members of the club are adamant that they're "here to stay!" They view the Society's formation as the most significant and exciting development the Australian orchid scene has encountered in the past 10 years.

## FIRST MEETING

The Society's first meeting was held in June, with some 30 growers from South Australia, Country Victoria and Melbourne in attendance.

Members were treated to a first class dinner and then had the pleasure of listening to the Chairman of Judging of the CSA, Andy Easton. Andy's talk covered trends and developments in early March-June flowering cymbidiums. The talk was reinforced with a first class slide presentation, as well as actual flowers.

## SOCIETY AIMS

The CSAACI has clearly defined aims.

These include:

1. To provide members with up-to-date information on world trends on hybridising, judging and awards.
2. To provide an alternative judging system based on world standards for cymbidiums and paphiopedilums.
3. To provide members with regular articles, features and editorials written by growers from all parts of the world.
4. To provide workshops and seminars for both experienced and beginner growers.

The Society intends to operate within the framework of the established orchid administration in Australia.

Eventually it is envisaged that the society would offer an alternative system of judging based on the American system, one that would complement the excellent system established and operating in Australia by the Australian Orchid Council.

Application for affiliation with the Victorian Orchid Club Inc. has been lodged.

Further information about the CSAACI can be obtained from the Society's Secretary, John Scott, PO Box 68, Keilor, Victoria 3036.

**FOOTNOTE:** It has since been indicated that the Management Committee of the Victorian Orchid Club Inc. has declined the CSAACI's application for affiliation

## A MESSAGE FROM THE PUBLISHER

Australian Orchid Review is the Official publication of all Australian State Orchid organisations.

As publisher of AOR, we are privileged to have the responsibility for editorial content vested in the hands of the Orchid Society of NSW, which appoints the Honorary Editor, Ronald Kerr, and a supporting Editorial Committee.

As publisher of AOR for nearly a decade of its 50 years existence, we have been motivated to improve its presentation, colour reproduction and reader interest. We are conscious of the tremendous advertiser support and are anxious to ensure advertisers get results.

In stressing our objectives and our desire to support the orchid organisations throughout Australia, we believe the magazine should

not be involved in matters of controversy which may involve groups or personalities throughout Australia. The place for debate is among individuals and their respective organisations.

Accordingly, we will not, in future, publish any material where controversy may divide the orchid community. The publisher's rights will remain in matters which may be affected by litigation.

**THE PUBLISHER AND STAFF WISH THE AUSTRALIAN ORCHID COUNCIL AND ITS MEMBER ORGANISATIONS EVERY SUCCESS FOR THE ORCHIDS AUSTRALIA '86 CONFERENCE.**

Paul Kelly  
Managing Director  
Printcraft Press Pty Ltd



# Delightful *Diuris*: The Donkey Orchids

ROBERT (BOB) BATES



"True" *Diuris longifolia*

The type form from cool areas of South-West Australia. It has short stems, long leaves, and colourful flowers. Common name "Purple Pansy".

Several new hybrids have been raised . . . The stage is now reached where the genus *Diuris* could be considered for the cut flower trade.

*Diuris* is an almost exclusively Australian genus of some 35 species, with one species recorded from Indonesia. The greatest concentration is found along the Great Australian Divide with some 20 different species in habitats ranging from coastal heathland through open forest, peat bogs and mountain tops or sub-alpine areas to rock outcrops as far inland as Cobar. Donkey orchids also extend as far as Western Australia which has at least 10 different taxa and although there are no exclusively tropical species several forms do occur in northern Queensland.

The name *Diuris* comes from the Greek "*dis*" meaning two and "*oura*" a tail, referring to the pendulous lateral sepals of most species. This feature has also led to the vernacular name 'double tails'. They are, however, more popularly referred to as 'donkey orchids', this name being suggested by the two upright petals which look like ears, the dorsal sepal being the head with labellum as a nose to complete the picture.

*Diuris* are terrestrials ranging in height from 10 cm (*D. palustris*) to almost a metre in some forms of *D. sulphurea* and *D. emarginata*. All species are glabrous and

arise from quite large oversummering tubers which range in shape from the handlike (palmate) tubers of *D. punctata* to the long snake or spaghetti-like tubers of *D. longifolia*. Most species have conical tubers. Leaves are long and narrow; there may be only one in some forms of *D. punctata* but other species such as *D. palustris* may have ten leaves. As in other bee-pollinated Australian terrestrial orchids the flowers exhibit a wide range of colours. Most species, however, follow the same pattern of having basically yellow flowers dotted, striped, blotched or suffused with brown. Other colours include purple



*D. punctata* var. *parvipetala*  
A Queensland form, now considered to be a distinct species. Small flowers indicate it is not the best form for cultivation.

(either spotted, striped or plain), lilac, orange (usually suffused with red, brown, or white) and of course there are semi-albino or even pure white forms. The only colour I have not seen in the genus is blue, but then Australia already has enough blue orchids! Fortunately almost all diuris are easy to grow, flower and multiply.

**Pollination:** Diuris are pollinated almost exclusively by native bees. The large showy, colourful flowers generally open all together (and there may be as many as a dozen). Many species are also lightly perfumed. These two features, besides being very desirable ones in cultivation, serve to advertise to the pollinators the presence of food, but (as in colourful *Caladenia* and *Thelymitra*) nectaries are either absent or much reduced. Diuris are thought to be mimics of other bush flowers but whereas the rounded flowers of *thelymitra* and *caladenia* are considered to mimic small bush lilies, those of diuris are probably modelled on bush peas, the labellum of the orchid looking like the keel of the pea flower and the erect dorsal sepal representing the staminode. The majority of bush peas have flowers of yellow and red-brown just like the orchids and just as some bush peas are purple so are some of the diuris! Despite all their attractions diuris flowers are rarely visited (the bees obviously are not silly enough to be fooled that often) and usually only one or two flowers per spike will set seed. Except for *Diuris setaceae* which has self-pollinated forms, all diuris have opted for outcrossing and as the bees seldom visit more than one flower on the same spike this is assured. Obviously the benefits of outcrossing outweigh the wastage of so many un-pollinated flowers. In any case even if only one flower on the spike is pollinated the capsule produced can contain over 1000 seeds! One noticeable feature of most diuris flowers is the presence of a guiding channel on the labellum leading to the base of the column; although rarely are there any secretions noticeable in this channel, obviously it is enough to persuade the bees to probe further until their heads are in contact with the sticky stigma and viscid disk. In cool weather bees are often found resting on the diuris flowers although under such circumstances they do not effect pollination and the reason for their choice of such a resting place is not known to me.

**Hybrids:** Diuris appear to have no internal barriers to prevent hybridising (although cytological studies have indicated a wide variation in chromosome numbers



even within a single species (Bell, Molloy & Peakall pers. comm.) and there are no mechanical barriers evident. Nor do the bees restrict themselves to a single species (pers. obs.). Indeed wherever two or more *Diuris* species grow and flower together (and this is a common occurrence) hybrids are likely to be found, particularly in disturbed areas and often enough back-crossing occurs to set up hybrid swarms. At one location near Mt Crawford in South Australia three species (*D. longifolia*, *D. maculata* and *D. lanceolata*) appear to have set up a three-way hybrid swarm. The

triple hybrid itself however appears to be sterile. (Many of the diuris hybrids are pollen sterile but can still be used as parents). Some twenty natural hybrids of diuris have been recorded (Bates 1985) and two of these have been named: *D. Xpalachila* (*D. lanceolata* x *D. maculata*), and *D. Xfastidiosa* (*D. lanceolata* x *D. palustris*). Several other named plants are also probable hybrids i.e. *D. lineata*, *D. flavo-purpurea*, *D. polymorpha*, *D. victoriensis* and *D. maculosissima*. The first four of these were found at Mt Victoria, N.S.W. named by Pearl Messmer who noted that



*D. venosa*

From the Barrington Tops in N.S.W. Shown here with attendant wild life.

they were growing with *D. maculata*, *D. lanceolata*, *D. platichila* and *D. Xpalachila* and that there were intermediates between her "species" and the others! (Messmer 1944). If that sounds confusing, consider that over 40 man-made hybrids have now been produced! The first Australian terrestrial orchid hybrid to be registered was a *Diuris* cross. This cross *D. Pioneer* was made by L. Nesbitt of Adelaide by crossing *D. maculata* and *D. longifolia* and registered by him in 1981. It also occurs naturally and is a real beauty, winning the Ira Butler award in 1985. It will undoubtedly be surpassed however by some of the new hybrids.

**Cultivation:** *Diuris* do well in pot cultivation and respond to good culture by producing more and larger flowers on taller stems than can usually be found in nature. Most species prefer a large pot (20-30 cm diam.) with several plants being grown together. The mix used should be open and freely draining i.e. 1 part bush

soil, 1 part washed sand, 1 part peat or vermiculite and 1 part rice hulls or polystyrene, the same mix suiting most species.

*Diuris* do require more light than the commonly grown *Pterostylis*; otherwise stems become lax. Most species can be repotted annually after the plants die down in December (soil in pots must be allowed to dry out to facilitate this) and watering can begin again in March. Many species increase vegetatively but for those which do not it is a simple procedure to tip the plants out of the pot as soon as flowering is completed and remove the newly formed tubers, then repot the plants which will promptly produce another set of tubers. Many growers also save seed and sow this in pots in April each year. Several new hybrids have been raised this way. The stage has now been reached where the genus *Diuris* could be considered for the cut flower trade. Unlike many of our Australian terrestrial orchids they do respond to use of fertiliser: at this stage organic ones have proved most suitable.



*Diuris* sp.

An attractive multi-flowered species from North-East N.S.W. Photographed in cultivation.

Affinity *D. aurea*. Ed.



*D. brevifolia* x *D. pedunculata*

A man made hybrid, made by Ray Nash. The seed was grown symbiotically in flask by Dr. J. Warcup of Adelaide. *D. pedunculata* is sometimes referred to by its synonym *D. lanceolata*.





*D. pedunculata* (syn. *D. lanceolata*)  
A pollinating bee (*Lasioglossum lanarium*)  
on lower flower.

*D. purdiei*

Very rare and rather weird. It comes from near Perth W.A.

### Selected species

*Diuris longifolia* complex. Although widespread throughout southern Australia this species reaches its greatest diversity in Western Australia where it is now accepted that several closely related species or subspecies are involved. There are some truly delightful forms to be found. Most have tall stems bearing 2-5 large flowers. All forms have snake-like tubers and increase vegetatively at a rapid rate. Many are shy flowerers so we are looking at the potential of hybridising them with more freely flowering species. There are forms with purple, yellow, white, orange or brown flowers giving them a great range of colour.

*Diuris punctata* complex. Just as the previous species is now considered to be a complex of species so it is with *D. punctata* from the eastern States. All shades of purple, violet and mauve appear often with white tints or even wholly white as in photo. *D. punctata* is a real gem. Its future lies not so much with hybrids as with line

breeding. some forms seen in Adelaide have been almost a metre tall with up to a dozen flowers each some 5-6 cm high. They do not increase vegetatively.

*Diuris laxiflora* complex. This is a group of Western Australian species where the present taxonomy is as uncertain as in the previous two groups! All have small yellow or cream flowers with dark markings but they are free flowering and very colourful when massed in a pot. They do increase vegetatively.

*Diuris venosa*. In contrast to the previous groups this is a rare species with limited distribution and variation, known only from the Barrington Tops in New South Wales. It has been cultivated and performs well but it is best not to grow such uncommon species until others have succeeded and they become freely available from increase of cultivated plants.

*Diuris purdiei*. This bizarre species is rare and restricted to a few small swamps on the coastal plain south of Perth. It seldom flowers unless stimulated by bush-fires and does not appear to thrive in cultivation. It is just one of several endangered donkey orchids.

*Diuris* sp. The bright yellow flowers of this species are typical of the genus. The plant illustrated came from the top of a mountain in the New England area of New South Wales. It has only recently been introduced to cultivation but its floriferous nature will make it a real asset to any collection.

With their beauty, variety and ease of cultivation there is little doubt that the genus *Diuris* will become the most commonly grown Australian terrestrial orchid genus.

### References:

Bates, R. (1985) "Checklist of Australian Terrestrial Orchid Hybrids (Nat. Orch. Soc. S. Aust).

Messmer, P. R. (1944) "Four New Species of *Diuris* from Mt. Victoria New South Wales" *Vict. Nat.* 61:38.

**Acknowledgements:** Assistance in "tracking down" the *Diuris* species illustrated was provided by the following orchid enthusiasts: Andrew Brown, Lynn Cardiff, Jim Lykos, Ron Heberle, George Nieuwenhoven and Don Voight.



# Adelaide Orchids

## Celebrating 25 Successful Years

SYD MONKHOUSE

Much has happened since 1961 when Syd Monkhouse and his wife Shirley decided to start an orchid nursery which was named Adelaide Orchids. Back in those days when the Australian currency was pounds, shillings and pence and a foot was a foot — not 30 centimetres, there were very few orchid growers in our State and they were warned several times, that "nobody will ever make a living out of orchids in South Australia".

The property at that time was a rather large suburban block at Camden, on which a big old house was situated.

Of course, with stubborn faith in the orchid business and a huge amount of work both in our firm and with, then the only local orchid society, the Orchid Club of South Australia Inc. they did their bit towards popularising orchid growing in our State.

The success of the combined efforts of all is reflected in the fact that South Australia can now boast six suburban orchid societies and has six country orchid societies. The Orchid Club of S.A. Inc. has grown to be the largest participating orchid society in the world with regular monthly meeting attendances in excess of 300.

The single suburban block became far too small for Adelaide Orchids even with the acquisition of several backyards, in the late 1960's, and in 1972 the business was transferred to a 6¼ acre block at O'Halloran Hill, just 18 kilometres south of Adelaide in the beautiful rolling hills and vales of that popular region.

Adelaide Orchids Pty. Ltd. became a company in 1974 and the board of directors has been enlarged to include my son and daughter, Stephen Monkhouse and Lynette Allen. If visitors to Orchids Australia '86 visit Adelaide Orchids Pty. Ltd., they will see one of the largest orchid establishments in Australia. Four acres of greenhouses contain a huge shadehouse 180 metres long



*Cym. Scott's Sunrise 'Aurora', HCC/OCSA  
(Pat No. 532235)*

and about 40 metres wide plus six large environment controlled houses, mostly made out of the very successful Tuflite.

A large sealed carpark will, weather permitting, be the site of the giant picnic lunch for those attending the Southern Nurseries tour. Otherwise a large packing shed will be utilised if the very rare wet day is encountered. Leading from the carpark, a wide footpath leads into the showroom and conservatory which also includes a large plant laboratory where seed raising and tissue culture are carried out.

A glance at the wall of the office will verify the fact that Adelaide Orchids Pty. Ltd. is one of the most successful orchid nurseries in Australia. Almost 40 Australian Orchid Council awards adorn the wall, even more Orchid Club of South Australia awards and several achieved in

their first exhibit taken to Auckland, New Zealand.

One of their proudest achievements was the Champion Cymbidium sash won at the 6th World Orchid Conference in Sydney in 1969 at which they gained a large number of trophies. There are ribbons depicting such successes as Grand Champion at the 3rd Australian Orchid Conference — the previous one in Adelaide in 1973 and among the many gold medals are two depicting Australian Orchids Of The Year awards — the only exhibitor to have ever won two of these coveted awards. Another proud record was Grand Champion award for *Paphiopedilum* Kay Rinaman 'Golden Touch' at the 1st N.Z. International Orchid Conference and they are also very proud of their six first prizes at the 10th World Orchid Conference in Durban, South Africa. Of course flowering seasons prevent them from exhibiting at orchid conferences north of the equator, however, they did gain a silver medal with intermediate *Cymbidium* Tricia Allen 'Confidence', HCC

at the Asean Orchid Conference in Singapore in 1985.

The company is justifiably proud of the quality of hybrid flower that it produces at Adelaide Orchids and in this, its Silver Anniversary year, they are preparing a showing of new varieties of several genera that with average luck with flowering times, will make many eyes "pop" at the International Orchid Show — there are enough of them to give visitors to the nursery hours of enjoyment also. Most of these new varieties have never been shown before and at the time of writing nearly all of the new cymbidiums are in vigorous spike. Always searching for new varieties, the company has produced some highly successful crossings of cymbidiums such as the Lois Kellys — (Ngaire 'R. Martin' x Araluen 'Fantasy), an unlikely combination that through colchicine treatment has produced many uniquely beautiful hybrids. The Log-fires (Sensation 'Melita' x Wiena 'Golden Goblet') through colchicine treatment, have produced outstanding results as also have



*Zygopetalum* Titanic 'Grand Prix'





*Milt. Evergreen Premier 'Champagne Bubbles'*

the Rolf Bolins (Ngaire 'R. Martin' x Khyber Pass 'Rowe's Red'), the Craters (Ngaire 'R. Martin' x Cariga 'Sorrento'), Val Wrights (Sensation 'Melita x Ngaire 'R. Martin'), Greenacres (Wyanga 'Hampton' x Araluen 'Fantasy') and numerous others. Of course, the firm's most famous parent of all and probably one of the all time great parents of the world is the 1966 Australian Orchid of the Year — Mary Ann 'Simplicity', AM. One of its greatest productions — Fair Promise 'Sydney' or from the successful Golden Grove crossing the cultivar 'Bill White' — are just two outstanding clones.

Adelaide Orchids has always specialised in the production of "intermediate cymbidiums". Carrying on the work of Paul Miller and using many of his stock plants they have had many successes. A fine array of never-before exhibited intermediates will be on display, including: the Aruntas

(Moriah 'Hindu' x Wyanga 'Elanora'), Dinky Di (Pelleas 'Monterey Bay' x Kurun 'Magi'), Tricia Allen (Amesbury 'Frank Slattery' x Radak 'Jade'), Greenock (Amesbury 'Frank Slattery' x Alnwick Castle 'Dover Heights'), Bunnygirl (Showgirl 'Julie Christie' x Sussex Moor 'Sorrento') and many more.

The crossing of Scott's Sunrise made history for Adelaide Orchids when one cultivar Scott's Sunrise 'Aurora', HCC/OCSA became the first plant of any type to be patented in Australia and is still the only orchid that has ever been patented here. Of course the latest of the new cymbidiums are the Freaklings, and these progeny of prize winning mutant Cleo's Melody 'Freakout' appear to be the only recorded instance of a flower mutation such as the very attractive lip formations in the lower sepals of Cleo's Melody 'Freakout' being passed on to its progeny. Look for the new Freaklings at Orchids Australia '86.

# Increasing Your Collection with Plant Growth Regulators

WALTER F. MURPHY

About six years ago, intrigued with the implications of the use of plant growth regulators, I began corresponding with Dr James Brasch of Canada. Dr Brasch had developed a formula for plant growth regulators with a lanolin base and was marketing it under the brand name of 'Keikigrow', solely designed for use on phalaenopsis. By applying cytokinins to the tissue of phalaenopsis, orchid growers have been able to produce 'keikis'<sup>1</sup> and thereby increase their collection without the expense and trouble of setting up an expensive laboratory. At present, considerable experimentation would be necessary before commercial quantities could be produced by means of hormones, however, for the grower interested in merely increasing his stock of a particular plant or in saving a damaged or sick orchid, the process is ideal.

New growers are particularly appreciative of keiki propagations as they are easy to grow and usually flower within 12-16 months from the time of application of the growth regulators.

Around the same time that I became interested in the subject I discovered that Kevin McFarlane<sup>3</sup> of Cairns had developed a similar interest. Both Kevin and myself were keen to experiment on genera other than phalaenopsis — a fact readily encouraged by Dr Brasch in my correspondence. This correspondence kept me informed of what Dr Brasch wanted by way of testing of other genera and the large numbers of different genera we were able to grow in Queensland made the task so much easier.

The big breakthrough came with the addition of vitamins<sup>2</sup> (mainly *Thiamum hydrochloride* and *Niacin*) to the formulae, which extended the use of the plant growth regulators to virtually any plant. I am pleased that the experiments conducted here by Kevin and myself were of assistance in confirming the suitability of Dr Brasch's revised formulae.



This vanda was treated with Keikigrow Plus when placed in quarantine. It developed three keikis.

Plant growth regulators are artificially produced substances which when applied to plants, approximate the normal activities of the natural hormones in the plant. In a nutshell, hormones control such physiological processes as cell elongation, differentiation and growth, fruit ripening, leaf drop and many other functions.

There are three main hormones or plant growth regulators which are utilised in these formulae namely Auxins, Cytokinins and Gibberellins.

**AUXINS** occur naturally in plants and activate the growing tips of the plant, causing the cells to elongate and grow upwards and bend towards the sun.

**CYTOKININS** (especially *benzyladenine* and *N-benzylaminopurine*) pro-



mote cell differentiation rather than elongation and encourage root growth.

**GIBBERELLINS** stimulate stem elongation, increase flower size and seed germination. They can be used to induce flowering by breaking long dormancy — to offset the plant's requirements for long day exposure or periods of low temperature in order for it to flower.



***Dendrobium antennatum***

In December 1984 this plant, then 10cm high, was treated with Keikigrow Plus. In 15 months it developed 18 new growths and was shifted to a 20cm pot — an instant specimen.

Perhaps the simplest and best example of how natural hormones work is shown by the common practice amongst gardeners of pinching out the growing tip of a chrysanthemum. This physical action effectively removes the principal source of Auxins, the growing tip, allowing the now inbalance of Cytokinins to take control and activate dormant side buds to growth.

With orchids and other plants, the simple solution is to find dormant buds which will enhance the growth of the plant and apply plant growth regulator as economically and accurately as possible. Theoretically the Cytokinins in the plant growth regulator, being systemic, will induce any dormant bud into growth. It will not act only at the point of application but will travel throughout the whole plant — often producing a

multitude of growths (Keikis) anywhere on the plant.

The role of plant growth regulators in the rescue of damaged or distressed plants cannot be over-stressed. When rot sets in, for example, many growers panic and discard the plant. Others watch in despair as the rot spreads and engulfs the whole plant. This is especially true of Crown Rot in phalaenopsis, but similar situations exist for any genus.

The important fact to keep in mind is that the damaged plant may already, as a self-defence mechanism, have produced adventitious buds around the basal area of the plant. Prompt action of removal of the damaged (rotted) section of the plant with a scalpel is essential; treatment of the freshly-cut tissue with "stop-rot" formula and an application of "Keikigrow Plus" is an excellent remedial treatment. The "Stop-rot" formula contains a bordeaux mix in a lanolin solution — effectively sealing the cut and at the same time treating the rot by way of the bordeaux mix — allowing the "Keikigrow Plus" to speed up activation of the dormant eye(s). This allows the plant to recover more quickly. The saving of even one expensive hybrid or species plant is surely preferable to watching helplessly as the plant dies a rapid death?

A further, closely-related practice I have found very useful is the application of "Keikigrow Plus" to newly-imported and frequently-rootless plants going into quarantine.

Auxins greatly assist the normal growth of roots<sup>4</sup> and Cytokinins often jar a dormant bud into growth when the parent plant is reluctant or ceases to survive due to treatment experienced in quarantine processes. This is particularly so with vandaceous genera. On many occasions I have had vandaceous plants come out of quarantine and then slowly die-back from the effects of the gas treatment; now I always discard a bottom leaf or clean off the tissue around the basal area and smear with "Keikigrow Plus", in most cases resulting in one or more Keiki growths forming whilst the plant is in quarantine. In many cases the parent plant has indeed passed on, but not before leaving, thankfully, a perfect duplicate replacement Keiki.

The list of plants on which plant growth regulators have proved effective is almost endless, however, suffice it to say that currently, besides orchids, plant growth regulators are being used on a regular basis on nepenthes<sup>5</sup>, crotons, jatropha, day-lilies, philodendrons, rubber plants, schleffena and diffenbachia to name a few — as well as being used to encourage secondary branching of apples<sup>6</sup>, and to overcome apical dominance in grape vines, cucumbers, squash, pumpkins, etc, especially in the tropics, so that fruiting occurs along the stems.

Programmes with roses have been developed with "Keigigrow Plus" to promote dormant buds, particularly during low-light periods and have resulted in production of a flowering growth in a few weeks.

Bonzai growers are finding a use in activating a dormant eye where a branch would improve the shape of the tree.

The use with orchid genera is unlimited. Perhaps before long AOC judges may be faced with difficult decisions as the result of hormone treatment of show-quality plants. Gibberellins have been shown to increase flower size and Cytokinins to produce multiple-growth plants where single growth is normal. Imagine *Oncidium papilio*, *O. kramerianum* and *O. sanderae*, to use just one genus, on which dormant buds have been activated on the flower spikes — picture the dilemma of the judges faced with the sight of every papilio spike with two, three or more flowers, all of increased size?

## DIRECTIONS FOR USING PLANT GROWTH REGULATORS

When not in use store the "Keigigrow Plus" and other Keigigrow products (Stoprot and Rootgrow) in the refrigerator.

"Keigigrow Plus" is normally applied in three situations to orchids depending on the genus and spike habit of the plant:

### 1. On dormant eyes on the flower spike.

On such genera as phalaenopsis, oncidiums, dendrobiums, etc dormant eyes are found under a covering bract on the spike below the bottom flower. Careful removal of the bract will reveal the dormant eye. Treat only the two nodes closest to the parent plant, being careful not to damage the bud.

2. On adventitious eyes along the canes. On dendrobiums, vandas, etc. These eyes are found under mature leaves. By carefully removing a leaf the eye, if any, will be revealed and the plant growth regulator applied.

3. On basal eyes on any orchid. When dividing or repotting an orchid, especially those forming pseudobulbs, plant growth regulator can be applied to any "backbulb" or "back-cut" removed. Clean off any bracts or dead tissue from around the basal eyes (if visible) and apply plant growth regulator to the area. If no eye is in evidence clean the dead tissue from around the basal area and apply plant growth regulator as before.

In experiments here in Australia on genera other than phalaenopsis, regular success has been achieved on the following:

Indian softcane dendrobiums such as *D. chameleon*, *D. anosmum*, *D. pierardii*, *D. primulinum*, etc.

Hardcane dendrobiums using both basal eyes and adventitious eyes under leaves.

Cattleya and allied genera using basal area and basal eyes.

Vandaceous orchids using both basal eyes and adventitious eyes under leaves.

Oncidiums using both dormant eyes on flower spike and basal eyes.

"Backbulbs" of cymbidiums, odontoglossum alliance, lycaste, bifrenaria, etc — almost any genera which produce "pseudobulbs".

These examples are given to show what can be achieved with plant growth regulators. Essentially, as mentioned previously the regulators prompt the self-preservation mechanism of the plant into action. They do NOT harm the parent plant *if applied as recommended by the manufacturer*.

Recommendations made in this paper are intended for use with "Keigigrow Plus" plant regulators — manufactured by Plant Hormones (Canada). I cannot vouch for the quality or reaction of plant regulators produced from other sources. Some are no doubt good; many others have been found to give uneven results and are often too strong. Some have been analysed and found to contain *trans-annamic acid* and Keikis





A very sick plant of *Dendrobium Jomag* x *D. canaliculatum* producing multiple keikis before dying.

produced by formulae containing this ingredient will probably *not* develop roots.

The successful use of plant growth regulators requires not only the correct, precise chemical equivalent of the natural hormone, but requires that this hormone or regulator be mixed in the formula in the correct proportions. The application of an excess amount of *any* plant regulator *can inhibit root growth*. Stick rigidly to the guidelines of the manufacturer.

In this regard I will quote you direct from the originator of "Keikigrow Plus", Dr James Brasch, so there can be no error in my interpretation:

"1. Use the growth regulators sparingly.

Excessive amounts are not only unsightly and costly, but may be counter-productive. Since cytokinins tend at times to inhibit root development excessive amounts may only discourage root development after vegetative growth has begun. A rooting regulator may be applied, of course, but this is less satisfactory when the original application designed to produce vegetation is still in place. If the vegetative growth does not develop roots after a reasonable time (usually a month or so) the cytokinin in lanolin should be removed

and a rooting regulator applied. Most rooting compounds are marketed in powder form and are relatively useless under most normal orchid cultural conditions. Fortunately, a suspension of auxins and vitamins is now available in lanolin and the water-shedding lanolin keeps the substances in place long enough to accomplish their mission.

2. Raise the temperature of the growing area where regulators are applied to at least 18°. Higher temperatures are even better. This is not absolutely necessary, but increased vegetative initiations will result. Growth is usually noted in about two weeks after application although many buds show signs of expansion within a few days.
3. Apply the growth regulator to only two nodes closest to the plant. Excessive applications frequently result in many growths but both the spike and the plant may not be able to support optimum development if too many keikis are present. When this happens the over-burdened spike may wither. It is important to note that no reports of damage to the parent plant have been confirmed.
4. Apply the plant regulator when spikes have completed or almost completed their bloom cycle. Our correspondents sometimes complain that more flowers result from the applications, instead of hoped-for Keikis. Phalaenopsis, for example, have a vegetative and a flowering cycle. Older mature plants sometimes lose this distinction, but for the most part the two cycles represent different spurts of growth and, as might be expected, there is a change in the relative proportions of hormones produced and necessary for growth. Keiki production is naturally enhanced during the growth cycle. Although the use of fluorescent tubes and extreme hybridisation has tended to obscure these cycles, the best Keiki production seems to occur from spring through early summer. The production of more flowers can be somewhat annoying when keikis are desired, but in a large botanical garden, for



A hardcane dendrobium showing systemic effects of treatment. The original keiki on the right is ready to come off. The one on left started two months after the first, and the one on the upper left four months after the first.

example, the use of the plant regulator to produce more flowers rather than additional plants could far out-weigh its use for keiki production.

5. Use **high nitrogen fertilizers**. We generally use fish emulsion (6-1-1) for keiki nourishment.
6. **Water plants only with soft water**<sup>7</sup>. In order to achieve the best results from plant regulators, make certain that the water supply does not contain excessive salts and does not have a pH reading above 6.5. This should be carefully checked, especially if you live in a rural area. Large city water supplies are usually fed by rain (soft) water reservoirs, but if you have any reason to doubt this, request local health officials to conduct a test for you. This is most important not only

for keiki production, but for good general maintenance of your growing area. Orchids which are watered consistently with water testing above pH 7, are unable to absorb nutrients, hormones or vitamins. Not only will hard water damage the host plant, but the production of healthy *keikis* and secondary growths will be severely hindered. Incidentally, never use water from a chemical water-softener.

7. **Keep the air supply fresh and buoyant**. Check that the air supply to your orchids contains the necessary carbon dioxide which all plants require for photosynthesis. This factor is becoming increasingly significant now that energy costs have led to a variety of insulating schemes, such as plastic bubbles, which severely hinder good air supplies. If



necessary add carbon dioxide by burning an alcohol (or similar) lamp. Take precautions against accidental spillage and exercise extreme caution.

8. **Maintain adequate humidity.** Make certain that parent orchids have plenty of humidity (at least 70 per cent) to accompany the increased temperature. With central hot-air heating supplies around many fluorescent installations, especially in temperate latitudes, or old leaky greenhouses, it is often difficult to maintain sufficient humidity. Always remember that good air movement should accompany high humidity."

### Acknowledgement

In addition to the references listed below, which are recommended reading for anyone wishing to delve further into the subject, I acknowledge, with thanks, the considerable material, much of it as yet unpublished, provided by Dr Brasch in personal correspondence between us.

### References and Recommended Reading Material

1. See James D. Brasch and Ivan Kocsis "You Can Meristem with Hormones" *AOS Bulletin* Volume 49, No. 10, October 1980.
2. See Joseph Arditti and Charles R. Harrison "Vitamin Requirements and Metabolism in Orchids" in *Orchid Biology* Ithaca-NY Cornell University Press 1977.
3. Kevin McFarlane's work was presented in papers delivered before 10th WOC in South Africa and at 7th AOC Conference.
4. See "Cytokinins as Inhibitors of Root Growth" *Physiologia Planetarum*. Volume 56, No. 4, 1982, pages 500-506.
5. See Ivan Kocsis "Notes on Nepenthes" *Carnivorous Plant Newsletter*. Volume 11, No. 4, December 1982, pages 101-103.
6. See C. Rom and G.R. Motichek "Altering Growth Habit of Young Apple Trees with Growth Regulators" *Horticultural Science*. Volume 18, No. 2, 1983, page 167.

7. See James D. Brasch "Poor Water Quality — An Orchid Menace" *AOS Bulletin*. Volume 51, No. 8, August 1982, pages 836-841.

### DIRECTIONS

Follow normal sanitary precautions. Wash hands and any utensils to be used in a mild disinfectant solution. Keep Keigigrow away from eyes, skin and children. Store at room temperature (about 20°C) and use within one year of date of purchase.

Apply Keigigrow to the meristem tissue on flower spikes of your selected plant. The meristem tissue surrounds a tiny bud under the covering bract around each node on the flower spike. Treat three to four nodes per spike up to a maximum of two spikes per plant. Be careful not to damage the small bud or the meristem tissue during application.

### HOW TO USE

1. Carefully slit the bract covering the node with the tip of a clean sharp knife.
2. Peel back and remove the bract covering with tweezers.
3. Spread Keigigrow lightly over the tiny dormant bud and the tender area around it. A flat toothpick makes a handy and disposable applicator.
4. Repeat applications every ten days or more often during conditions of extreme heat.

### Orchids Makes Cheap Decoration

"Let's think about cost . . . My florist says he buys cattleyas from \$2 each, up to \$5 for the large ones. About \$10 for a very good spike of cymbidiums. Retail prices a little dearer. Compare this with roses, now \$1.50 each; carnations 90 cents each and chrysanthemums at \$4 a bunch. Now two large cattleyas for \$10 will make a fantastic arrangement with good-lasting qualities, whereas seven roses for the same cost may droop their heads the next day".

Melva Smith in *Les Orchidaes*,  
Caboolture OS.

# QUEENSLAND ROUND-UP

ERROL MARSHALL

## SLIPPERS . . . GREAT FOR COLD WEATHER IN BRISBANE

The pessimists say it will never rain again, and the optimists are selling their rain coats. The much welcomed monsoon rains did not eventuate this year and summer drifted into a cold winter with no rain. Water rationing is already a way of life on the Gold Coast with residents fighting to save gardens.

Is it the bomb? Maybe it's because they have been hacking down the Amazon, and that's affecting the ecology.

It has been cold, down to 4 - 5 degrees, but that suits the Slippers. One abnormality that has occurred this season has been a much shorter flower stem and a tendency to throw two flowers. Opinion is divided, with the lack of humidity being mostly blamed, but it could be any number of seasonal conditions. The wags say they think they're going to die — that's why two flowers.

Despite these conditions, the slippers have once again been outstanding. Recently we saw one of the late Athol Bell's crosses (Beaute 'The Grange' x Peony 'Regency') very round with a good ventral. Brushed red on a good stem, it was award quality but unfortunately it had a blemish on the dorsal. Another cross showing outstanding potential is (Peony x Keelax x Winston Churchill), two of these missed awards because of blemishes. (Ever noticed how the dogs never get eaten or get marks?).

Up and coming young Brisbane medical student Steve Cox recently flowered an eye-catching (Winston Churchill 'Lakeside') and maybe not a F.C.C. this year, Steve is thinking of naming the grex Medicare Blewit.

A primary which drew much comment had *Paphiopedilum bellatulum* as one parent, bred by Vacherot and Lecoufle. A very appealing veined cherry red which came from McKinney's nursery. This cross also missed its time before the judges because the same grub was at it, too.



A parent which is showing a lot of potential *P. Pacific Ocean*, and one wonders just how good it is going to be, if it is given half the mares *P. Winston Churchill* has had at stud.

Moves are afoot to stage a full on, Slipper-Come-Cymbidium show next winter in Brisbane, similar in timing to Sydney's Winter Show. For a long time, its been felt that most of our shows have catered for dendrobium and cat growers with the slippers, and cym past their best flowering period. One club whose show fits nicely into the time slot is John Oxley, and this very friendly club with its enthusiastic president Steve Houvath are going all out to cater for slipper classes at this year's show.

They say if you don't live in Sydney you are camping out! Well we campers up here have heard a rumour that the Master, Doug Symons, might be back into paphs, and he is going to call his new place Pathback.

MAY ALL YOUR SLIPPERS BE BIG AND ROUND WITH NICELY TUCKED IN BEHINDS.



# NEW SERVICE FOR CYMBIDIUM GROWERS

How many of you would like to buy a flask but do not have the confidence to deflask them? How many have purchased a flask only to have most of the plants die within a few weeks? If you answer yes to either of these questions then you will be interested in a new service provided by a nursery in Victoria - deflasking and contract growing.

Brian and Bernice McCabe run the Lazy Possum Nursery, in Devon Meadows, Victoria. They have been growing cymbidiums for fourteen years and deflasking since 1980. Their initial efforts involved sterilising orchid sand on the kitchen stove — the plants died! Today they lose less than 1% of plants — including those from contaminated flasks.

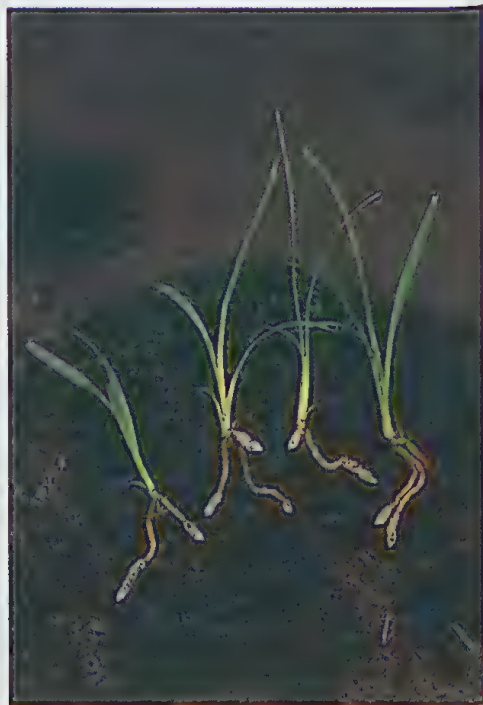
Generally, any problem with a plant will show up in the root system first. (This excludes insect, scale and mite attacks). Therefore their growing programme is aimed at producing large, active and clean roots. If the root system is healthy, the plant will grow well, develop faster and flower sooner. To do this they rely on an open, free-flowing mix (all plants are grown in treated pine bark) and plenty of water. A slow release fertiliser is used and supplemented by liquid feeding in the Spring and Summer.

They are not making claims for exceptionally fast growth but as you can see from the photographs the plants and root growth, over the time period, are excellent.

Of particular interest is the continued growth of the flask roots. Normally these remain dormant, can rot away and be the source of disease. (Fig. 1). The combination of conditions, mix and water applied to older plants is producing larger bulbs and even bigger spikes (Fig. 2), a first flowering standard cymbidium. Fig 3. shows plants four and a half months from flask with no heat.

## The Service

Initially they are concentrating on cymbidiums. When the flask is received they record relevant data - size of plants, con-



*Fig. 1. 6 weeks from flask. Some bottom heat applied*

dition of flask, etc. From deflasking onwards all treatments are recorded. This information is supplied to the owner in a three monthly report and a final report around six months.

At the end of six months the owner will receive well established plants in 76 mm (3") pots. Depending on the time of year and a particular owner's requirements, the plants may need to be grown on before potting on. Obviously, the end result depends on the condition of the plants and flask forwarded.

Their service extends from the small collector to the commercial grower. Prices for small quantities, from flask to 76 mm (3") pot, are \$1.50/plant. Insurance, against fire and malicious damage, is also available at a small additional charge.

This is a unique service, well priced and sure to be of interest to many growers.

Fig. 2. *Standard Cymbidium mericlone - 1st flowering*



Fig. 3. *4½ months from flask - no heat*



Fig. 5. *Selection of plants in 3" pots*



# Fellowship across the Pacific

Fred and Doris Alcorn

The San Francisco Orchid Society invited Fred to give a talk on the *Lycaste* orchid at their May meeting. Later this was extended to two other societies, Santa Cruz and Santa Clara. He accepted with pleasure and of course I went along to take care of the luggage!

We arrived at S.F. airport on the 29th April, the same date we left Sydney and were met at the airport by Steve Gettel and Larry Moskovitz — ex President and Vice President of the S.F.O.S. — who drove us to the Stanyan Hotel where we stayed for the first three nights. Steve and Larry looked after us whilst we were in San Francisco. The Stanyan Hotel has recently been renovated and declared a historical building. It was very comfortable and quiet.

Thursday Steve took the day off and drove us to see Bruce and Myra Cobbledick's nursery — they have some very good odontoglossums and inter-generic crosses, lycaste and quite a number of angulocaste; mostly good quality orchids in these genera. Further down the coast we called on Kay Rinaman who has a selection of only top quality orchids in many genera. Kay specialises in paphiopedilum, lycaste and other genera. Fred had visited both these growers in 1979 and they are still producing good orchids.

Early Friday Stella and Mike Roccaforte (car reg. No. ROCO40) called and drove us along the scenic coastal road to Santa Cruz (80 miles) — Stella is Treasurer of Santa Cruz O.S. They took us to their greenhouses — four igloo type houses in a row, featuring plastic tops; these are run by different growers, each one on a lease from the owner. They specialise in cattleyas and a number of different genera of good quality. Frank Hughes, one of the growers, is a top man in phalaenopsis and paphiopedilums. He has met a number of Australian growers. Stella provided a beautiful picnic lunch at the nursery.

When John Watkins arrived we left the

Roccafortes and travelled with John to his lovely home set in a miniature redwood forest overlooking Santa Cruz Bay. We spent four very interesting days here. A most delightful family — Debbie, John's wife and five children aged from 10 years to 2 years, each one individual, articulate and talented. The theory "happiness comes from within" was evident in this family's philosophy. John took Fred to see his nursery, situated a short distance away from the home. He is a new grower and specialises in phalaenopsis and is endeavouring to flower some of the new colours, especially in the yellows.

We then went to Woody Carlson's, also known to some of our Australian growers — he is a grower of miltonias and inter-generic crosses. That evening we went to a Japanese Sushi meal — something in store for those who will visit Japan next March. From there we went on to the Santa Cruz meeting which was well organised and the people very friendly. Some very keen to grow lycaste.

Saturday evening we were entertained by talented members of the Mormon Church and afterwards viewed their works of art. A display of paintings, some of which were done by Lee Dalton (Debbie's uncle) and John displayed some of his choice phalaenopsis.

Monday morning John Watkins had some business in Monterey and took us along. He dropped us off at Monterey Peninsula where we visited the new Monterey Bay Aquarium. This is further down the road from where we visited Fisherman's Wharf on our previous visit in 1984 (11th W.O.C.). The aquarium was completed late 1984 and has a huge circular tank for the marine mammals to cruise around in full view of the public. The first occasion we have been close enough to view the 'undercarriage' of a shark.

Another worthwhile feature is the Touch Pool where children can lift species out of the shallow water and feel the creatures.

Outside one can sit and watch the otters playing in the Great Tide Pool — a pleasant interlude.

It seemed no time before we were meeting John again and on the way back. We stopped by to see the Monterey Orchid Company — these people are providing excellent growing conditions and obviously getting quick results. Their method of heating during Winter is to blow warm air from one end of the house at a moderate level and at the other end to near the top of the roof, suck the warm air down a pipe and distribute it through small holed drainage pipes underneath the benches. This is a cheap way to distribute heat. They use pure bore water and a mixture of 50% bark and 50% porous gravel. Also by a quick turn of a handle they can slide their benches together, thus eliminating the walkways when required and accommodating more orchids in a set area. In our opinion, this is the nursery of tomorrow! Economical, efficient, labour and power saving. The cymbidiums are run by Mark Pendleton who is salesman for Terry Root — a paph. grower known as "Orchidzone". Herb. Hager, a well known hybridiser, who is in charge of the phalaenopsis is well known to many in Australia.

On Tuesday a friend of John Watkins, Dorothy Cecchini, called to take us back to San Francisco — she had recently taken delivery of a new Cadillac, gold in colour and smooth in action. The 80 miles journey of two hours was over before we realised it. We had lunch together and she drove straight back to Santa Cruz. Such was the hospitality all through our stay.

That evening the S.F.O.S. meeting was held at the "Hall of Flowers". Larry Moskovitz was our host and he drove us to the meeting. This was very well attended and by this time we had met some of the growers and we felt very much at home. A raffle was organised — some would buy \$10-\$20 worth of tickets and a large number of good quality orchids and seedlings were won in prizes. The quality of the orchids on show was high class and a short description of the plants was handled by two experienced growers — they gave a short description of each plant, working alternatively from opposite sides of the large row of

tables. We thought this was an excellent idea. We saw some very attractive colours in the *Slc.* Hazel Boyd cattleyas. Most genera were represented including a beautiful *disa*, very well grown.

On the evening of the 7th May Warren Nelson, President of Santa Clara Society, called for us. He had driven from Santa Clara which began his mammoth drive of some 200 miles that night to transport us to and from their meeting. We stopped at a roadside restaurant where we met Sally Swanson (Vice President) and dined in haste before we attended the meeting. It was very well attended and the people particularly friendly. They appreciated the talk on *Lycaste* and our slides and they all seemed interested and anxious to grow the genus. Bertie Steindorf was there with his wife Ray, he is 80 years old and has been attending meetings since 1925.

Thursday — we took a taxi to Pier 39 and boarded a ferry which cruised around the Bay, had a close look at Alcatraz and tried out our new video camera. Back on land we found a lovely restaurant above street level overlooking the Bay and spent a leisurely two hours before returning to the hotel. As a farewell gesture Larry and Steve took us to Zolas in Sacramento, for dinner — this was our final contact with the S.F.O.S. and we thanked them for their hospitality, courtesy and friendliness.

The hospitality extended to us at the three meetings was exceptional. All expressed appreciation of the talks and admired the slides. Many spoke of the progress in hybridising and how we were leading the world in development of the beautiful *Lycaste*.

169 Pennant Hills Rd, Carlingford, 2118.

## 12th World Orchid Conference

Japanese growers are organising a uniquely beautiful Conference. It will be Spring in Japan, a time for blossoming cherry trees and orchids at their best.

For information on the tour organised by the OS of NSW contact Mr. W. (Bill) Smoothey, 15 Merlin St., Roseville, 2069. Phone (02) 46 2567.



# A subject so beautiful . . .

## The story behind the Australian Orchid stamp issue Ron Kerr interviews the designers

I knew Patonga only from distant glimpses as I boated Broken Bay. When I lifted the phone and Otto Schmidinger was on the line I knew that I would at last see it at close quarters. Otto acknowledged my letter and said he would welcome a visit to interview him and his wife, Christine Stead, concerning the coming orchid stamp issue.

The issue is momentous as there has been only one Australian orchid stamp, and then only because it was part of a series given to State National Flowers.

Ever since the Sixth World Orchid Conference in Sydney, September 1969, Gerald McCraith has been lobbying for an orchid stamp issue, first as President of the Australian Orchid Council and later as Director of the Australian Orchid Foundation.

Now the series was on its way!

Patonga is a neat little beach village facing the Pacific with the Hawkesbury River pushing past on the right to meet the open sea. A couple of streets of weekend and retirement homes are locked in by the virgin bush of Brisbane Waters National Park.

My destination was a dwelling perched on a bluff overlooking the beach and sea, and not visible from the road. An ideal setting for artists I mused, while walking up steps and path. The house blended perfectly with twisted eucalypts and native shrubs. It was apparent nature lovers lived there.

Christine Stead ushered me to a room which seemed an extension of the outdoors.

"Congratulations", I said, "We orchid growers have been looking forward to this stamp issue".

Christine smiled, "For a subject so beautiful and charming as orchids I had to create designs worthy of them". She beckoned her husband from the art studio and we sat at a table overlooking Broken Bay. I began my questions:

A.O.R.: To what extent were the stamp designs a joint effort?

Otto: Well, it was all Christine's work. We discuss design approaches and make constructive suggestions on each other's work, and that is as far as it went in this instance.

A.O.R.: What was the approach, Christine?

Christine: First, I was excited at having got the commission because I love flowers and I desperately wanted to do it.

A.O.R.: I gather from this setting that you appreciate native flora?

Otto: Yes, we are both active supporters of the Australian Conservation Foundation. It took a lot of organising to fit the house on two blocks with the loss of only two trees.

A.O.R.: Are these the first stamps you have designed?

Otto: We did the series commemorating the 1984 Olympic Games and AUSSAT this year. Those designs were symbolic, but for the orchid stamps, Christine preferred a more factual approach.

A.O.R.: For subjects as small as stamps the handling of detail, especially because botanical accuracy is vital, would have been a problem for you?

Christine: We had the choice of making the artwork either four or six times larger.

A.O.R.: But what about detail? Wouldn't you lose a lot in photographic reduction?

Christine: It was necessary to do small sketches first in order to work out the amount of detail which would fit into the space.

A.O.R.: Did you have any pre-knowledge of orchids?

Christine: Telecom supplied us with colour photographs made from transparencies, none of which would have reduced satisfactorily to stamp size.

NOTE: These stamps are not actual size.



*Elythranthra emarginata* is known as the Pink Enamel Orchid because of the enamelled appearance of its petals and sepals. It grows in the South West coastal plain of Western Australia.



*Dendrobium nindii* is one of Queensland's more spectacular epiphytes. The plant can reach a height of two metres and the mauve-tipped flowers are long-lasting.

A.O.R.: Then additional research was necessary?

Christine: I researched at the State Herbarium Library, and obtained orchid books at our Council Library. We attended orchid shows, and I was advised to see Roy Gifford at Umina. Roy is a leading native orchid grower, and is currently President of the Australasian Native Orchid Society. He was very helpful.

A.O.R.: Roy would have shown you actual flowers and demonstrated the flower structure?

Christine: Yes, it was very interesting to see his plants.

A.O.R.: So considerable research took place before you started on the first experimental sketches?

Christine: During the research I found there was considerable variation between the colours of the photographs and the many book illustrations examined. We discovered that was because there is considerable variation within a species. So we had to work out the best features from several sources. And that was very exciting.

A.O.R.: Did you know, when you were asked to submit a sample design, that it was on a competitive basis?

Christine: We didn't know that.

A.O.R.: Then you must feel proud of having been selected.



*Caleana major*, which is often called the Duck Orchid, blooms between August and February.



*Thelymitra variegata*, known as the Queen of Sheba, is one of Western Australia's most beautiful orchids. It blooms between June and September.



Christine: Very pleased indeed!

A.O.R.: Did you know that there is an Orchid Stamp Club International?

Christine: That does come as a surprise.

A.O.R.: It was formed in Sydney and now has members all over the world. Club members will be waiting to see and promote your stamps.

Christine: That is nice. It's interesting to learn that so many people are involved in collecting orchid stamps.

A.O.R.: Do you think it strange it has taken nearly 20 years for this series to eventuate?

Christine: It does seem strange when you consider just how many stamp issues there are each year.

A.O.R.: You have certainly utilised every possible amount of space with your stamp designs.

Christine: Yes, the designs run off the edges to make them look as large as possible.

A.O.R.: They are certainly aesthetically pleasing. You have set out to put a little drama into each design?

Christine: To an extent, but composition was more important. There were some minor alterations necessary after the artwork went to the National Botanic Gardens at Canberra for checking.

A.O.R.: Then there is no doubt that the designs are botanically correct?

Christine: I am pleased the experts liked them.

A.O.R.: Will you be going to Adelaide for the Stamp Launching at the Orchid Conference?

Christine: We will be there and intend having a display of prints based on the species used for the stamp issue. The prints will be in a limited edition of 100 sets and will be for sale at Orchids Australia '86. Part of the proceeds will go to the Australian Conservation Foundation.

## The Orchid Stamp Designs

The designs feature four native Australian orchids:

### a. *Caleana major*

The *Caleana* genus is considered to contain a single species, *C. major*, although this is subject to debate.

The red-brown flowers are reversed so that the highly touch-sensitive lip is uppermost. This aids in the process of pollination for when an insect lands, the lip folds in on itself, trapping the insect temporarily in the column. Pollen is gathered by the insect as it struggles to climb out again.

*C. Major* can be found in South Australia, Victoria, Tasmania, New South Wales and Queensland. It blooms between August and February and is often called the Duck Orchid.

### b. *Dendrobium nindii*

The *Dendrobium* genus embraces about 1,000 species.

*D. nindii* is one of Queensland's more spectacular epiphytes. It thrives in the humid tropical lowland areas between Innisfail and the Bloomfield River and in the McIlwraith and Iron Range areas of Cape York Peninsula, growing high in the trees where there is light and air movement. The plant can reach a height of two metres, and the mauve-tipped flowers are long lasting, blooming from July to September.

It is believed to be pollinated by a native bee, attracted by the colour of the flowers and the promise of nectar.

### c. *Elythranthera emarginata*

The *Elythranthera* genus consists of two species, both endemic to Western Australia. The brilliantly coloured *E. emarginata* is known as the Pink Enamel Orchid because of the enamelled appearance of its petals and sepals. It grows along the south-west coastal plain of Western Australia, flowering between October and December.

### d. *Thelymitra variegata*

The *Thelymitra* orchids are called Sun Orchids because most flower on warm sunny days. Unlike other orchids, the majority of *Thelymitra* species do not have a modified lip so that the petals are all similar in shape and colour.

*T. variegata*, known as the Queen of Sheba, is one of Western Australia's most beautiful orchids. Its colours can vary from orange and red shades to pink and purple, enhanced by an iridescent sheen. It appears to mimic lily-like flowers which attract native bees. It blooms between June and September.

# T.Q.O.C. COMES OF AGE

RAY ROBINSON



*Lecturers at the Conference were (from left to right); Jim Rentoul, John Woolf, President of Townsville O.S., Ray Robinson, Len Lawler and Barry Paget.*

Tropical Queensland orchid conferences are held annually usually on the Queen's birthday weekend in June at a North Queensland centre within the T.Q.O.C. region.

This year the T.Q.O.C. celebrated its 21st anniversary and the privilege of hosting this 21st annual conference was granted to the Townsville Orchid Society.

The very first T.Q.O.C. conference was hosted by the Townsville Orchid Society back in 1965, incidentally, the very first orchid conference to be held in Australia.

The Tropical Queensland Orchid Council was formed by North Queensland Orchid Societies to stimulate Orchid growing in North Queensland. The idea of the T.Q.O.C. came about when a species study group was formed in the Townsville Orchid Society by Mrs. Georgina Ridge, an active and enthusiastic member. Support was so strong and interest so wide, the advantages of an even closer co-operation became readily apparent and societies from Ingham, Proserpine, Mackay, Cairns, Marceba, Atherton, Mt. Isa, Tully, Bowen, Innisfail, Rockhampton and Townsville

decided to join with the Townsville Orchid Society and establish the Council. The organisers felt that the Council should also establish a judging panel and help from the A.O.C. was requested. The A.O.C. Register General at that time was Frank Slattery who journeyed to Townsville to assist with the formation of the Council.

A Constitution was adopted and the original Executive elected were: Patron—Frank Slattery; President—Jack Tait; Vice President—Ron Merritt; Secretary—Georgina Ridge; Treasurer—Heath Sabadina; Members—S. Hinds; D. Stewart; J. Walmer, J. Wallis; G. Hart and W. Hooten.

Over the years the council has flourished and has the honour of being the oldest Regional Orchid Council in Australia.

To celebrate its "coming of age" the Council recently invoked a "T.Q.O.C. Fellowship Award" to be awarded to individuals for service to the T.Q.O.C. and to the interest of Orchid Growing in North Queensland.

Speakers at the recent conference in-





*Top Left: Mrs. Georgina Ridge being presented with the T.Q.O.C. Fellowship Award by Patron of the T.Q.O.C. Frank Slattery with Ron Merritt in the background.*

*Above: Frank and Jean Slattery being presented with T.Q.O.C. Fellowship Award by President of T.Q.O.C. Mr. Ron Bassan.*

cluded Mr. Len Lawler of the Australian Orchid Foundation Research Committee who gave an interesting account of "Uses of Orchids", Barry Paget who spoke on the "History and Development of Phalaenanthem Dendrobium".

John Woolf told of his experiences of growing paphiopedilums and current breeding trends within the genus and popular Jim Rentoul spoke on "Growing Temperate Zone Orchids in Southern Australia".

The conference banquet was held at the Townsville International Hotel. Here a pleasing climax to the conference was announced by the President, namely that the first T.Q.O.C. Fellowship Award had

been granted to Mrs. Georgina Ridge for contributions towards the inauguration and formation to the Tropical Queensland Orchid Council, and to the interest of Orchid Growing in North Queensland. The second T.Q.O.C. Fellowship award was awarded to Frank and Jean Slattery for meritorious service to the Tropical Queensland Orchid Council and for service to the interest of Orchid Growing in North Queensland.

Frank Slattery has been Patron of the T.Q.O.C. since its inception and has attended every one of its annual conferences.

Next year the conference will be held at Mareeba, and in 1988 Darwin will be the host.

# LETTER TO THE EDITOR

Sir,

Following on from Maurie Black's article "GET IT RIGHT" (AOR Winter 1986), which deals with the mispronunciation of many words in the orchid vocabulary, I would like to take the A.O.R. to task for not setting a very good example in print!

Take the beautiful colour cover on the very same edition of A.O.R., a very dark red *Cymbidium*. Yet on page 5 under the heading of "Cover Story", this is listed as *C. VOLCANIC FLASH*. According to my copies of Sander's List of Orchid Hybrids, this abbreviation means the picture on the cover is actually a *CATTLEYA*!!! The error is repeated twice more on page 6 and once more on page 7, although the correct abbreviation is used in the article on page 12.

Even worse is a rapidly growing tendency for advertisers of *Cymbidiums* not to use ANY name or abbreviation. In this current edition I count no less than 12 advertisements, including full page colour ads which fail to show any identifying generic name or abbreviation. A couple do mention some '*Cymbidium*' award in their text as the only clue.

There is yet another common error and that is the use of the abbreviation "D." for *Dendrobium*. The correct abbreviation is, of course, Den. This occurs on pages 13 and 15 in editorial articles, and in 5 advertisements.

It does not stop there either. There is another advertiser using 'P' for *Paph.*, and yet another who lists two orchids for sale, one a *Dendrobium* the other a *Blc.*, but neither have any identification in the advertisement.

Is this a world wide trend? I was horrified to receive a classy colour catalogue from a well known orchid nursery in the USA without any genera identification beneath any of its colour photos!

Where will it stop? In the words of Maurie Black: "The sad fact is that, every time we use these stupid inaccuracies, our

credibility is eroded. Use them often enough and we become fools . . . ."

Yours faithfully,  
Colin Hamilton

Dear Mr Hamilton,

You are right, the omission of the first term in full, *C.* instead of *Cymbidium* Volcanic Flash, on page 5 of the Winter issue is an error in nomenclature.

Regarding the names of pages 6 and 7, the established horticultural practice is that the first naming of a genus must be in full, then further mentions of species or hybrids of the same genus need only have the initial letter *as long as no ambiguity is possible*. I think you will agree that no ambiguity is possible in this instance.

The *D.* for *Dendrobium* on pages 13 and 15 occurs in items devoted exclusively to *dendrobium* species with fully spelt out headings. Again no possible ambiguity.

On abbreviations Sanders states that "standard abbreviations of generic names continue to be used in the main text, this is essential for space economy". But note that Sander's abbreviations are in context and so are less likely to be confusing. There are some easily recognised Sander's abbreviations which may be used in orchid literature if appropriate. However, it would be unwise to use most of them in a horticultural magazine without prior explanation or footnote. Most people would be confused, even annoyed if an article contained such Sander's generic abbreviations as *Rskra.* or *Rdtt.* (Sanders 1976 - 80 xxviii). Again avoidance of ambiguity must be the key-note.

Incidentally the name *cymbidium* is never capitalised when used in a non-botanical form. With *s* added it is certainly not a botanical form. When used in a botanical form it must be given a capital and printed in italics or underlined. It would be correct to refer to the genus *Cymbidium*.

Ronald Kerr  
Hon. Editor



# My Experiences with Equitants

TONY PEPPER

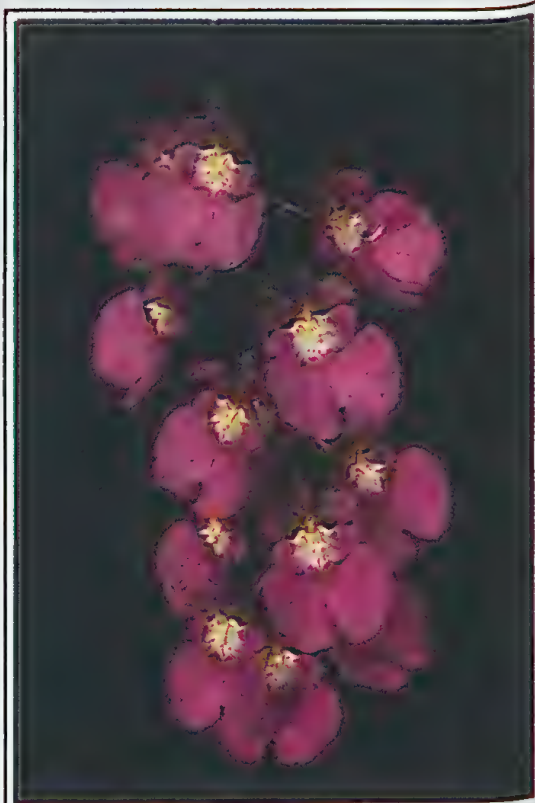
The article on Equitant *Oncidiums* by L.V.A. Mountford in the Autumn 1985 issue of this magazine was of great interest to me, as I am also a comparative beginner in the growing of this interesting genera.

My involvement began on seeing W.L. Hargraves' Flora Culture advertisement in the March 1982 *Australian Orchid Review* and the subsequent purchase of two flasks from him.

These arrived in February 1983 and were placed on compressed cork. A further three flasks were purchased in August 1983, and first flowerings were in September 1984.

However, this Spring, I have thirty-five in flower or in bud from sixty-nine plants in an area of approximately one square metre. Not bad value from five flasks of "fives" at the then price of \$8.50 per flask.

Living in the sub-tropical climate that Grafton enjoys has enabled me to grow these without heat in my shadehouse that has been modified by covering the south-east and south-west sides with plastic sheeting; the north-east and north-west sides being 50 per cent shadedcloth; the roof 30



*O.* Red Velvet 'Cobbadah' x  
*O.* (Red Velvet x Sunset Fort)



*O.* Red Velvet 'Cobbadah' x  
*O.* (Red Velvet x Sunset Fort)

per cent shadedcloth on the south-east side and 50 per cent on the north-west side over clear corrugated sheeting.

The floor is thickly covered in gravel, and the benches are of wire mesh and covered with 50 per cent shadedcloth in order to provide (if my sums are correct) 75 per cent shade for the ferns that are hanging beneath the benches. This keeps the floor clear to discourage snails.

Watering is done in the morning, together with fertilising, using Bill Johnson's formulae twice a week in summer, and once weekly in the winter. On the hotter days, I hose the ferns and floor to help keep the plants cool.

So far, my plants have survived in August temperatures of 5°C or less on seventeen days. On one occasion, the temperature dropped to 2°C. Maximum temperatures ranged from 19°C on one day to 29°C on another: the 24°-27° range occurring on

twenty-two days. Fortunately, below zero temperatures seldom occur in Grafton, and hopefully, the plants will survive them.

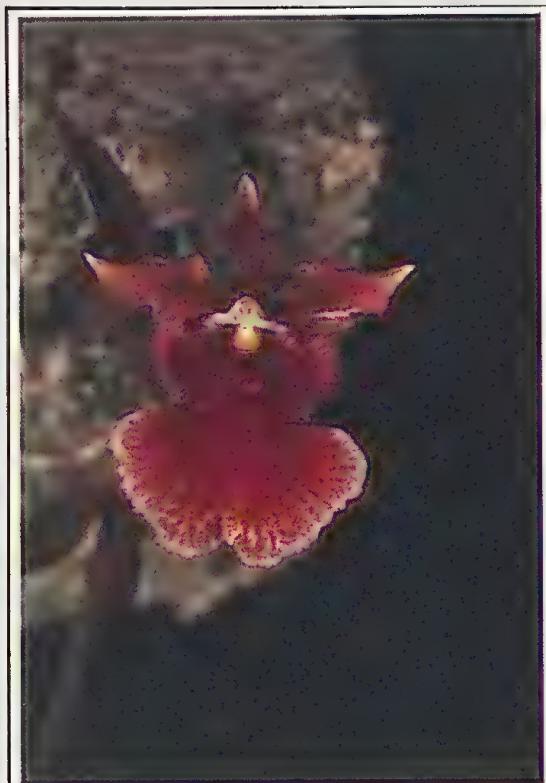
Summer temperatures ranged up to 42°C, and very rarely was below 30°C.

Having since purchased further flasks, I have now increased my collection of *oncidiums* by a further ninety-one. These orchids offer excellent value for the small space they occupy, and if my article encourages others to try a few, I will be well satisfied.

185 Turf Street, Grafton, NSW.

The illustration on this page is from the flask *Onc. Golden Sunset 'Taka' x Onc. triquetrum 'Red Fantasy'*. The parents were shown in the March 1985 issue of *Australian Orchid Review*, as mentioned at the start of my article, and is first flowering.

The other two slides, which appear on page 38, are second flowerings from a flask of *Onc. Red Velvet 'Cobbadah' x Onc. (Red Velvet x Sunset Fort)*.



*O. Golden Sunset 'Taka' x  
O. triquetrum 'Red Fantasy'*

## IN BRIEF

### Orchid Species Society Members Honoured

The Orchid Species Society of Queensland has become a vibrant and influential organisation since it was formed in 1972.

Now three of the members whose drive helped make this a reality have been honoured with Life Membership.

At a 1972 meeting of the West Brisbane Orchid Society Hal Young and a small group of species growers decided to advertise in *The Courier Mail* regarding forming a species study group.

Consequently a meeting was held at the home of Hal and Beverly Young on the 9th of October, 1972, with 13 people present. Meetings took place at the Toowong Bowling Club for a couple of years, then at

Bread House, Gregory Terrace.

The Society outgrew Bread House and meetings moved to the Mt. Coot-tha Botanic Gardens Auditorium in January, 1978.

Hal Young served for two terms as inaugural President. He has remained on the committee in various capacities, notably as bulletin editor during the formative years.

Beverly Young has been a dynamo for the Society since its inception, as typist for the bulletin and as secretary for a number of years. She and Hal have made themselves responsible for setting up the many orchid displays at shows.

Both Hal and Bev Young have given more than anyone can expect; being first in with anything involving the Society.

Lurleen Perrett is one of the 13 founding members but had to forego office early on due to a busy career in medicine. She became treasurer in 1976 and held the position for five years. She became vice-president, and then a committee member.



# The hunt and the hurt

W. A. TURVILLE

*A search for new paphiopedilums of the sub-genus Anotopetalum*

"A group of species lacking auricles on the labellum and with narrow petals. It includes such species as *P. rothschildianum*, *P. stonei*, *P. sanderianum*, *P. philippinensis*, *P. praestans*. All have stiff apple green foliage."

This article is by no means a botanical work. My reasons for writing this piece are to show the adventures a backyard collector can have once he sets his mind on acquiring a certain plant. But firstly, what is an *Anotopetalum* type *Paphiopedilum*? it is described as follows:-

"A group of species lacking auricles on the labellum and with narrow petals. It includes such species as *P. rothschildianum*, *P. stonei*, *P. sanderianum*, *P. philippinensis*, *P. praestans*. All have stiff apple green foliage".

In my own opinion they are the most spectacular of the species *Paphiopedilums*.

It began with an extract from a recent American Orchid Society Bulletin.

"A fourth Bornean species was discovered by Dr. E. De Vogel on a mountain in South Eastern Kalimantan. Judging from close up transparencies kindly given to me by its discoverer, *Paph. devogelii* is a distinct species".

This small passage is all I could find from any literature published. There is no mention of this species in either Lance Birk's *The Paphiopedilum Grower's Manual* or Australian Keith Bennett's *Tropical Asiatic Slipper Orchids*. The two books were the largest works in English on the genus in the last ten years.

As a fanatical collector, the search was on for a division.

The largest exporter of orchids from that region is a gentleman by the name of Mr. Atmo Kolopaking, who runs "Simanis Orchids" of Lawang in East Java. Unfortunately Mr. Kolopaking did not know of *Paph. devogelii*, but at the time of my contacting him, he was bringing out large

numbers of a new *Anotopetalum* type *Paphiopedilum* from Central Kalimantan. His advertisement follows:

JAN 24, 1983

"We have available, *Paphiopedilum* new species resembling *P. rothschildianum* recently found in Borneo. It is the ultimate beauty in all species *Paphiopedilum* and more superior than the real *Paph. rothschildianum* as it has eleven long lived flowers all open, twice counted, on a four foot long flowerstalk. Some leaves are 75 cm long 8.7 cm wide. Price is \$500 U.S. each, not less, two growth \$800 U.S."

At that price, I regretfully couldn't even consider it. Three months later, a second advertising letter arrived.

APRIL 7, 1983

"The new super giant species which has flowered twice with eleven flowers now to our utter amazement has flowered with 14 flowers of 125 mm across all open on a 1.5 m flowerstalk. Some of the leaves are 80 cm long and 9 cm wide".

A third letter:-

APRIL 28, 1983

"Dr. J. A. Fowlie visited our nursery on April 10th, 1983 and confirmed our new *Paphiopedilum* as a new species and ultimate beauty in all *Paphiopedilum* species".

By late May, 1983, his price was more negotiable and so I decided to buy two plants. In this latest correspondence the plant was finally identified.

This sketch was drawn by a talented young artist by the name of Cameron Logan. It was compiled from the four photographs given to me by Mr Atmo Kolopaking



MAY 24, 1983

No. 31. "Paph. resembling *rothschildianum*".

The cost of collecting the first 17 plants is more than \$10,000 U.S. It is to be named *Paphiopedilum kolopakingii*. (OD Fowl Jan. Feb. 1984).

It grows in full sunshine high in the mountains".

So did I have my *Paph. devogelii*? Well I

thought so! Even if it did come under the name of *Kolopakingii*.

In June 1984 Dr. Phillip Cribb graced the Orchid Species Society of Victoria by giving a lecture on the orchid species of the Solomon Islands. During the question segment of the evening, I asked of the new species *Paphiopedilums* discovered since 1982. The species he mentioned were:-

*Paph. malipoence* and *P. armeniacum* from China and *P. kolopakingii* from





## Winter Orchid Festival of the Orchid Society of N.S.W.

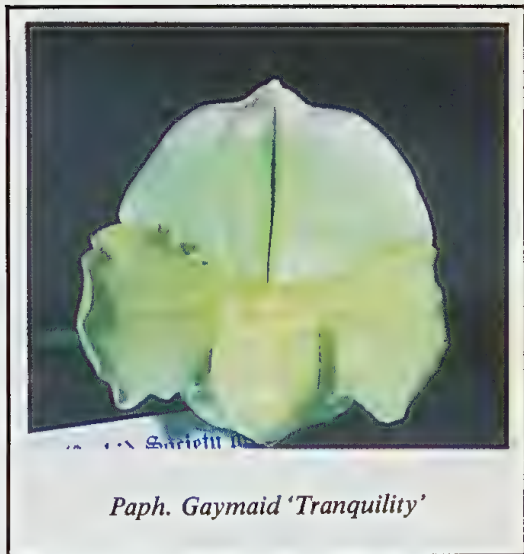
The 1986 Festival was held at Ashfield Mall in June and attracted a very fine display of winter flowers. As usual, the major part of the show comprised displays by affiliated societies. There were eight large displays and five smaller ones.

Parramatta Society won the class for large exhibits with a beautiful show of colourful orchids in a range of genera with a high standard of quality.

Orchid S.P.E.C.I.E.S. (NSW) Society was judged best in the smaller display class — no mean feat to win the class with a display containing no hybrids at all.

The first O.S.N.S.W. shows held in winter were known as Slipper Shows because their main purpose was to allow the best paphiopedilums to be shown at the height of their season. It was very interesting to note the number of quality flowers of other genera at Ashfield — an indication of the wider range of orchids now available.

The Grand Champion was a lovely pale green paphiopedilum — *Paph. Gaymaid*



*Paph. Gaymaid 'Tranquility'*

'Tranquility'. This was one of the four plants which won the prize for Mr. W. Hughes in the class for four paphiopedilums.

The Champion Native Hybrid went to David Banks for *Dendrobium* Hilda Poxon 'Winston Hills'. This also carried the Ira Butler Memorial Trophy.

A. B. Porter

## IN BRIEF

### Invitation from Tamworth

Tamworth Orchid Society have a red carpet ready for any guest speaker holidaying or passing through their lovely town on their meeting night. This is on the third Wednesday of the month. There's a great bunch of growers there who will really appreciate obtaining outside guidance. A week or more notice will enable Tamworth to ensure a bumper attendance.

The secretary is Mr. Barre Schweitzer, 40 Kent St., West Tamworth 2340. Phone (067) 65 8041. President: Mr. L. Harris (067) 65 9448.

### Apology

It is regretted that the illustration of *Oncidium onustum*, 'Mary Kate',

AM/AOC-QOS on page 23 of the Autumn issue did not include the names of the plant's owners. This fine plant was grown by Mr. D. Paroz and Mrs. L. Paroz of Palmwoods, Queensland. We apologise to Mr. and Mrs. Paroz for this omission. Also to Mr. Peter Taylor for any misconception which may have occurred.

### West Moreton Orchid Group

Apologies West Moreton and apologies Ipswich OS for getting the two societies mixed in our Show Dates last issue (p.93). There are two orchid clubs in Ipswich: West Moreton and the Ipswich OS. The second reference to Ipswich OS should have been to West Moreton Orchid Group, thus:

**West Moreton Orchid Group.** SPRING SHOW. St. Paul's War Memorial Hall. Thurs 11/9 to Sun 14/9. It will be a good show, West Moreton is a live group. Sec. G. Freeman, PO. Box 101, Ipswich 4305. Ph. (075) 64 1776. The group meets Humanities Centre on 4th Friday.



# AROUND & ABOUT

## **Burrageara Living Fire**

A Rod McLellan cross, registered in 1978, from *Vuylstekeara* Edna x *Oncidium* maculatum. V. Edna is from *Miltoniodes* Harwoodii and *Odontioda* Charlesworthii. *Miltoniodes* Harwoodii = *Cochliodes* noezliana x *Odontoglossum* harryanum (Charlesworth 1909). *Odontioda* Charlesworthii is from *Miltonia* vexillaria and *Odontoglossum* harryanum.

There are four natural genera in the breeding line: *Cochliodes*, *Miltonia*,

*Odontoglossum*, and *Oncidium*. Following the practice of naming a complicated intergeneric hybrid after a prominent orchidologist and adding *ara*, the registering by the Black & Flory nursery named the combination after the first President of the American Orchid Society, Mr. Albert C. Burrage.

*B. Living Fire* grows in Sydney without heat and flowers on an eight or nine month cycle. The rich colour will fade quickly if the flowers are left in strong light.

Grown and photographed by Ron Kerr



## **NEW QLD NURSERY**

Fame Orchids, Australia's newest Orchid Nursery is to open officially on Sat Sept 6th.

Situated at Thornlands approximately 20 km south east of Brisbane, in the heart of the Redlands, Fame's owners George and Marie Marshall, are extremely happy with their growing results in this mild area, right on the shores of Moreton Bay.



*A section of Fame's new controlled environment, Phalaenopsis House*

## COMING EVENTS

Eleventh Australian Orchid Conference and Orchids Australia '86. September 17-24 inclusive, Adelaide.

Twelfth World Orchid Conference. Tokyo. March 14-25, 1987.

Twelfth Australian Orchid Conference. Celebrating Australian Bicentenary. September 1988, Sydney.

Sub-Tropical Orchid Council Orchid Expo. September 1988.

13th World Orchid Conference. New Zealand 1990.

Hiroshima Orchid Symposium.

Planned to follow the Twelfth World Orchid Conference. Venue the Hiroshima Botanical Gardens, March 25-27. Contact: Hiroshima Symposium Secretariat, C/- Japan Convention Services Inc, Nippon Press Center Building, 2-2-1 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100, Japan.

## Nice Autumn Show in Brisbane

Eastern District Orchid Society's new show venue provided ample room for Marshall Graham Gash to arrange 372 orchids into a superb display.

Champion of the Show, *Lc. Mary Jean Warren*, cross of *C. Karae* Lyn Sugiyama with *Lc. Bonanza*, proved once again how good a stud is *Lc. Bonanza*.

The dainty and colourful cattleytonias, a relatively new line of breeding, attracted considerable interest. These dazzling little gems spring from *Broughtonia sanguinea* crossed with a cattleya. *Broughtonia* is a monotypic genus from Cuba and Jamaica.

Two of the progeny on display were outstanding, namely *Ctna. Keith Roth 'Kodama'* (*C. bicolor* x *Bro. sanguinea*) and *Ctna. Jamaica Red* (*Bro. sanguinea* x *Ctna. Keith Roth*). Both are blood red.

Species admirers were intrigued by the pendulous stems, loaded with small yellow flowers, of *Dendrochilum cobbianum*. Also by the drooping raceme of *Aerides lawrenceae* with its pink and white wrapped-around flowers.

Champion specimen went to novice

grower Mr. G. J. Hill's *Bc. Maikia* (*B. nodosa* x *C. bowringiana*). It also won a Q.O.S. Certificate of Cultural Commendation. The plant displayed to perfection 34 flower spikes, each with seven blooms.

Champion species was a *Cattleya bicolor* owned by Mr. C. Gieger. It carried four attractive green and magenta flowers.

## Show Results Bankstown Orchid Society Winter Show

Bass Hill Plaza was the venue for the Bankstown Orchid Society Winter show. Grand Champion was intermediate *Cymbidium* Mini Mint 'Mitzi', flowered to perfection by Lloyd and Margaret Perry.

This particular clone was a first flowering seedling, emerald green in colour and the plant carried seven racemes with about 20 flowers on each. A few days later the same clone was awarded a HCC/NSW, narrowly missing out on an Award of Merit.

Reserve Champion and Champion *Cattleya* was taken out by *Blc. Sylvia Fry 'Supreme'*, owned by Don Massey. Champion *Paphiopedilum* was a seedling *P. Winston Churchill* x *P. Matrow* owned by Royale Orchids.

Main attractions of the show were the beautifully presented table top displays, this section being taken out by Royale Orchids.

Overall the show was a huge success.

## Tasmanian Facelift

The Tasmanian OS has revamped its newsletter under the distinctive name *Greenhood*. The logo is a map of Tasmania with a *Pterostylis* superimposed. The TOS newsletter continues to be a very useful medium culturally and socially.

## There's Something About Tassie . . .

It is noted that mainland growers rush off to Tasmania at the drop of a hat. Wal Upton and Don Stephenson were down there recently spreading the orchid gospel and have been very pleased with the reception they received from local growers.

Orchid nurseries are blossoming there, an indication of widening interest in orchid growing. Mainland growers all leave with the remark "I'll be back".



# ORCHID ABBREVIATIONS

Greg Williams

The mysterious letters before orchid names can be confusing, but if correctly used carry a wealth of information. Each genera has its own official Royal Horticultural Society abbreviation. For example: *Cattleya* = *C.*; *Cymbidium* = *Cym.* (although most cymbidium growers can't get past *C!*); *Dendrobium* = *Den.*; *Vanda* = *V.*; and *Ascocentrum* = *Asct.*

When intergeneric crosses are made, then an abbreviation is made for a new name invented to cover this new situation. A cross between a *Cattleya* (*C.*) and a *Laelia* (*L.*) is a *Laeliocattleya* (*Lc.*). Similarly, *Cattleya* x *Laelia* x *Sophronitis* = *Sophrolaeliocattleya* (*Slc.*) NOTE: the 'a' on the end of *Laelia* changes to 'o'.

Often a new name is "invented", particularly when the combination of genera involved produces unmanageable names when just joined together:

*Cattleya* x *Laelia* x *Sophronitis* x *Brassavola* = *Potinara* (*Pot.*)

The invented name is often derived from the name of the person who first registers a cross incorporating genera not previously bred together. However, each genera in the intergeneric cross are not all present in the same equal proportions. A *Potinara* crossed with *C.S.*, *B.*, or *L.*, or any combination of these is still a *Potinara*.

Well that briefly is what those letters are about. There are too many to memorise them all and we mostly content ourselves with remembering those which particularly interest us. The Sanders' List of Orchid Hybrids is about the most convenient place to look up other combinations you encounter in your reading.

# IN BRIEF

## A SPECIAL WELCOME

The Australian Orchid Review would like to welcome the many overseas visitors who have ventured "down under" for the Orchids Australia '86 conference in Adelaide.

It is hoped that all visitors will enjoy their time in Australia and that many will take the opportunity to visit orchid enthusiasts all over Australia.

A call to Australian Orchid Review offices on (02) 560 6166 will ensure a very warm welcome.

On behalf of all our readers and advertising sponsors, a very warm welcome. Please feel free to contact any orchid society or nursery — Australian hospitality is renowned world-wide.

Michael Santer

Rosemary Bromwich has been a key member of the Orchid Society of the Northern Territory since its formation more than 10 years ago. Society members felt the rigours of cyclone Tracy which shattered their homes and collections. They stayed to make Darwin a fine city and to create interesting orchid collections.

Rosemary was among the first to realise that the future of orchid collections in Darwin lay with vandaceous orchids. She has visited nurseries in Singapore, journeyed to Papua New Guinea with Andree Millar, and attended orchid conferences in Queensland in pursuit of plants and orchid knowledge.

The OS of NT is an affiliate of the Tropical Queensland Orchid Council and Rosemary was at the Council's Queen's Birthday Conference weekend in June this year pushing for her society as host for the 1988 TQOC Conference. She won approval too.

So mark your 1988 calendar, diary, or whatever, now for the first week-end in June.

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PHAL. NATASHA x BARBARA MOLER 'No. 50' (STEM PROP.) (white/red spot)	\$125.00
PHAL. GRACE LADY (MERICLONE) (white/red lip)	\$20.00

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Expect orange, reds and plum colours - fantastic shape.

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Expect very full shaped reds.

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A sibling cross—expect excellent shaped blues and rusts.

**D. AUTUMN SHOW x (D. BRIGHT EYES x D. MARGARET JOAN FELL) x D. GEMWOOD**  
Expect whites with coloured lip.

**(BLC. NEIL BLAISDEL x LC. TERRY WAYNE) x LC. WESTERN SUNSET**  
Yellow to orange background, splashed petals, good shape—very highly recommended for the cattleya connoisseur.

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- Autumn Show x (Doreen x Lim Hepa) — bicolours.
- Hepa x Autumn Show — white and bicolours.
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- (Impact x Michael Sado) x Physan Princess.
- Physan Princess x (Busaba x Lady Hamilton) — large, dark and shapely.
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- Narromine x Hickam Deb 'Wallcrest' — (limited).
- (Impact x phalaenopsis) x Paradise Maid — bicolours.

The crosses listed above are available in Size A at \$3.50 each or for \$35.00 per dozen as listed.  
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- Debbie McFarlane x Alwin Hill — dainty dark blooms.
- affine x johannis — upright sprays of mauve and multi-colours.
- Bold Stripes x carronii — stripes, splash petals, mauves. Spectacular!
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- affine x Doreen — whites and bicolours, long sprays.
- Joy Nevins x Halo — expect yellow tepals with violet labellum.

The above-listed crosses are all miniatures, producing long sprays of blooms at various seasons.  
These plants will bloom in 50 mm pots. You may have the collection listed above (near flowering size or flowering size) at \$7 per plant or \$60 for the collection. Freight extra.

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Lc. Prism Panette 'Xmas Candy'	2" \$7.50
Bic. Waikiki Sunset (Brightest Orange)	2" \$7.50
C. Porcia 'Canazare' (blue)	2" \$7.50
C. Warneri 'Coerulea' (blue)	2" \$10.00
O. Rose Giant 'Akikii'	2" \$7.50
O. Charm 'Yellow Doll'	2" \$7.50
Cina. Joy Bassin 'Lea', AM/AOS	2" \$12.50
Slc. Hazel Boyd 'Irene' (flowering size)	\$125.00
Slc. Hazel Boyd 'March Lion' (flowering size)	\$125.00
Slc. Hazel Boyd 'Vi-Love Song' (flowering size)	\$125.00
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Lc. Eva x Cina. Keith Roth	2	\$3.00
Sc. Beaufort Elmwood x Blc. Bouton D'or 'Lewis'	2	\$3.00
C. Forbesii x L. Lobata	2	\$2.25
C. Forbesii x B. Digbyana	2	\$2.25
Lc. Christopher Gubler 'Betties Beau'		
x C. Horace 'Maxima'	2	\$2.25
O. Ebony Beauty x O. Passionate Red 'Robsan'	2	\$3.00
O. Loke Lani x O. Passionate Red 'Robsan'	2	\$3.00
O. (Hawaiian Delight x Polypourii) x O. Passionate Red	2	\$3.00
C. Barbatiae x Epi. Prismaticarum	2	\$3.00
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C624 Den. Canaliculatum x Den. Monophyllum	\$35 flask
C621 Den. Affine x Den. Canaliculatum	\$30 flask
C530 Cat. Dormaniana x self	\$30 flask
C522 Cat. Porcia Canazaro x S. Coccinea	\$50 flask
C410 Cat. Warszewiczii Species	\$25 flask
C352 Miltassia Charles M. Fitch Alba x Onc. Haspelatum	\$50 flask

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REFER AUSTRALIAN ORCHID REVIEW — SUMMER 1985 — PAGE 25

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**CLAUDE PEPPER 'Suva' 4n**

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*For information on flask items of Claude Pepper items currently in stock contact us, or any of our agents listed below.*

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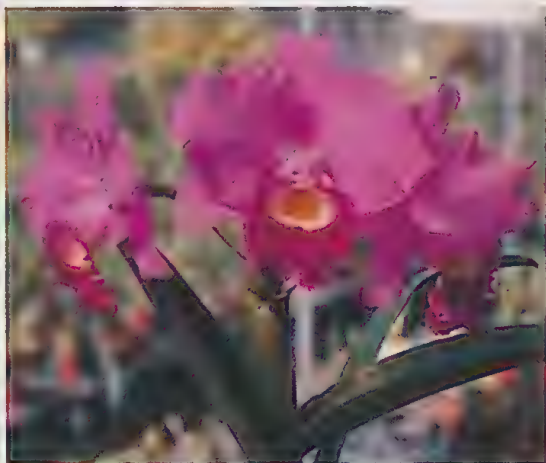
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(Especially Free Flowering)

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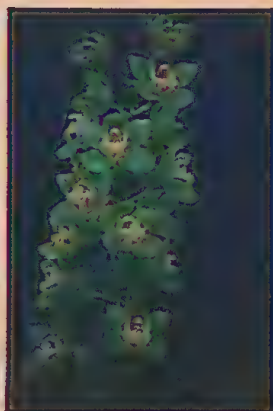
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Sensation 'Purple Perfection',  
AD/OCSA



Little Bighorn  
'Chieftan', HCC/AOC



Sensation 'Vieux Rose' 4N

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- BX166 WARRINYA 'EDNA' X SENSATION 'VIEUX ROSE', 4N** — excellent shaped intense pinks on tall erect spikes to flower freely in July/August. (20: \$50; 10: \$30)
- BX173 CHOCOLADA 'MOCHA' X VOLCANO 'MENEHUENE'** — a triploid crossing to produce solid browns of excellent shape with broad crimson labellums. (20: \$50; 10: \$30)
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- BX542 WINTER WONDER 'ICICLE' X SENSATION 'PURPLE PERFECTION'** — our piece of 'Icicle' produces up to 26 blooms on a tall spike — expect top pinks (20: \$50; 10: \$30)

## INTERMEDIATES

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Expected delivery times approximately six months from receipt of order. All orders met in order received and are freight extra. Please do not send payment with order.

**Please Note:** Some 'AX...' flasks available immediately.

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(VISITORS ARE VERY WELCOME BUT BY APPOINTMENT ONLY)

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### HAVE YOU SEEN THESE BEAUTIES?

**Hagaromo 'Spring Fuji'.** Extra good shaped white with a touch of purple (yes, true purple) in the throat and on the tips of the petals and sepals. One problem is late flowering but well worth the wait. Extra good quality small plants. .... \$12.00

**Peter Pan 'Ace'.** Last year we saw only a couple of flowers of this yellow throated red-purple beauty but that was enough to tell us we will see prize ribbons hanging off it one day.

**Upin 'Red Mini'.** First release of what looks like something special in minis. Malones type flower on very short sturdy canes. First of ours will flower this Spring. .... Med. \$16.00 Sml. \$12.00

**Papyion 'Angelica'.** We were not too stoked in this yellow until we saw it flower on a well established plant. It's a beauty and we thoroughly recommend it. .... Sml. \$10.00 Med. \$14.00 Lge. \$20.00

**Hanafubuki.** We will flower the first of these this year and expect something quite spectacular. Flower colour is white with yellow throat, not unlike Sweetheart 'King', however, canes are much longer — over 2ft. high. .... Med. \$18.00 Sml. \$12.00

**Lovely Virgin 'Angel' (Patented).** Beautiful soft pink flowers with ruffled wavy edges. Very free flowerer, even flowers on 100 mm (4") canes. .... Sml. \$12.00 Med. \$18.00

**Sweetheart 'King' (Patented).** Showbench shaped, white with large yellow lip that sits flat against the other segments. Very full flower on short sturdy stems. .... Sml. \$12.00 Med. \$18.00

#### A few flowering size Intergenerics also available now.

Vuyls. Cambria 'Plush' .....	\$25.00
Vuyls. Cambria 'Lensing's Favorit' .....	\$25.00
Vuyls. Edna 'Stamperland' .....	\$25.00
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Odtina. Velmoliere 'Polka' .....	\$28.00
Odtina. Lulli 'Menuet' .....	\$25.00
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Odtina. Florimosa 'Netty' .....	\$22.00
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Odcdm. Tiger Hambuhren 'Mieke' .....	\$28.00
Odcdm. Artur Elle 'Columbien' .....	\$22.00
Odm. Burkhard Holm 'Gera' .....	\$25.00
Oda. (rossii x Phoenix) 'Manon' .....	\$25.00

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1419 ROSS RIVER ROAD, KELSO, TOWNSVILLE, QUEENSLAND 4815

## RARE AND BEAUTIFUL ORCHID SPECIES

**FLASKS AND MINIFLASKS:** *Cym canaliculatum* sparskii.

*Cattleya guttata* type, *schilleriana*, *aclandaeae*.

*Oncidium croesus*, *robustissimum*, *calochilum*, *fimbriatum*.

*Dendrobium green antelope*, *taurinum*, *aureum*, *cochleoides*.

*Baptistonia echinata*.

*Batemanian colleyii*, *Trichoglottis brachiata*.

*Cymbidiella humblottii*.

*Cryptopus elatus* (Madagascar).

*Phalaenopsis schilleriana*.

**PRIMARY HYBRIDS:** *Dend. dearei* x *Sanderan majus* (large clusters of good size sparkling white, lip striped purple).

*Dend. miyakei* x *chameleon* (*pedilonum*, magenta purple x yellow, striped brown).

*Schomburgkia vellozicola* x *Sophonitella violacea* (pink x violet purple).

**ESTABLISHED FLOWERING SIZE, NURSERY**

**GROWN:** *Colax jugosus*; *Huntleya mealagris*; *Miltonia russelliana*; *Laelia millerii*; *Dend. bracteosum*; *Oncidium sarcodes*, *robustissimum*, *gracile*, *gravesianum*, *enderianum*; *Bulbophyllum fritilliflorum* (New Guinea), *Medusae alba* and spotted, *ornatissimum*.

PLUS *Eulophias*, *Spathoglottis*, *Dendrobiums*, *Cattleyas*, *Hexisea bidentata*, *Cycnoches egertonianum* var. *Diane*.

Robust nursery raised seedlings, 50mm and 75mm pot, advanced seedlings of species *Cattleyas*, *Dendrobiums*, *Laelias*, *Oncidiums*, *Aerides*, *Catasetums*, *Ansellia*.

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FREE LISTS, Flasks, Seedlings, and Flowering-size Plants.

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**BURLEIGH PARK, ORCHID NURSERY, 1419 ROSS RIVER ROAD, KELSO, 4815.**

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We are cloning over 150 varieties of cymbidiums. Many are available now priced at **\$15 per flask of 10**. We also give bonus flasks (one per five) and free delivery in Australia for ten or more flasks.

Colchicine-treated mericlones are now available in tens for the same price.

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A warm welcome is extended to all visitors to  
ORCHIDS AUSTRALIA '86.

# 25th ANNIVERSARY

We are proud to announce our Silver Anniversary — 25 years of service to the orchid growers of Australia and still going strong.

## NEW RELEASES — SPRING SPECIALS

A selection from our new 25th Anniversary catalogue.

If you are not on our mailing list, write for one.

- |       |  |                  |
|-------|--|------------------|
| MS364 | <b>Ascocentrum curvifolium x Self</b> .....  | \$3.50 in 2" pot |
|       | Selfing of superior red form.  |                  |
| MS363 | <b>Dendrobium formosum 'Giganteum' x Self</b> .....  | \$3.50 in 2" pot |
|       | Large white flowers up to 10cm across.   |                  |
| RD221 | <b>Dendrobium helix 'Mushroom Pink' x Self</b> .....   | \$3.50 in 2" pot |
|       | True antelope type; species ex P.N.G.  |                  |
| RD222 | <b>Dendrobium helix 'Pomeo Brown' x Self</b> .....   | \$3.50 in 2" pot |
|       | Most sought after form; species ex P.N.G.  |                  |
| MS520 | <b>Dendrobium JESTER 'Vicky Joy' x helix</b> .....   | \$3.50 in 2" pot |
|       | Interesting antelope hybrids; light browns to purple.  |                  |
| N968  | <b>Blc. PAMELA HETHERINGTON 'Coronation',<br/>FCC/AOS x Lc. DRUMBEAT 'Triumph',<br/>HCC/AOS</b> .....      | \$3.50 in 2" pot |
|       | Two awarded plants crossed to produce exceptionally large flowers of award quality in soft mauves to pink. |                  |
| N985  | <b>Slc. RAYAH'S RUBY 'Bengal Sunset' x C. luteola</b> ...  | \$5.00 in 2" pot |
|       | Miniature plants producing clusters of delightful yellow to orange flowers.                                |                  |
| MS471 | <b>Slc. NAOMI KERNS 'Fireball' x Slc. HAZEL BOYD<br/>'Apricot Glow'</b> .....                              | \$3.50 in 2" pot |
|       | Brilliant red to oranges; these will be spectacular.   |                  |
| MS458 | <b>Blc. MARY BATTLE 'La Tuilerie' x Blc LUCKY STRIKE<br/>'Virapongsi'</b> .....                            | \$3.50 in 2" pot |
|       | Show stopping purples from parents like these.   |                  |
| MS522 | <b>Phalaenopsis OPALINE x stuartiana 'Larkin Valley',<br/>AM/AOS</b> .....                                 | \$7.00 in 3" pot |
|       | Interesting cross, whites with red spotting.   |                  |

## ★ ★ SPECIAL ★ ★

Near flowering size ..... \$15.00 each

Lc. BUTTERFLY WINGS 'Chadderton'

A must for those who like splashes and clusters!

Intense gold with red splashes on petals.

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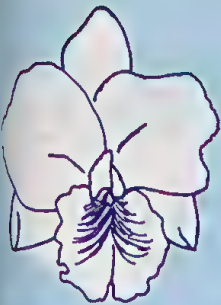
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Bc. Donna Kimura 'Asa' x C. Earl 'Imperialis'.  
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Lc. Pirate King 'Crimson Glory' x Blc. Bryce Canyon 'Splendiferous'.  
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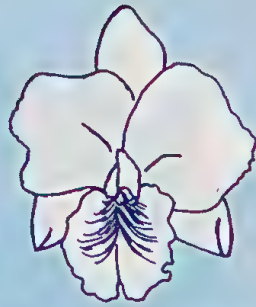
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Wallara 'Gold Nugget' Zumma Boyd 'Melva'  
Bulbarrow 'Will Stutely' Oriental Legend 'Cinnamon'  
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Negrito 'Cherry Ripe' Red Imp 'Red Towers'  
many others available

### CATTLEYA SEEDLINGS — 10-12 plants

Slc. Bellicent 'Dark Mischief' x Lc. Star Pink 'Blumen Insel'  
C. Belvedere 'Splash' x (Blc. Waikiki Gold x Blc. Limelight)  
Sl. Orpetii 'Fine' x Lc. Starry Sky 'Blumen Insel'  
Slc. Yellow Ball 'Sunshine' x Slc. Hazel Boyd 'Apricot Glow'  
Slc. Dancing Lights 'Little Lady' x Slc. Kauai Starbright 'Vi'  
Slc. Helen Veliz x Slc. Madge Fordyce 'Fire Brigade'  
Blc. Living Gift 'Blumen Insel' x Blc. Buttercup 'Bozo'  
Blc. Yummy 'Intense Gold' x Blc. Living Gift 'Blumen Insel'  
Lc. Waianae Sunset 'Kadooka' x Slc. Hazel Boyd 'Redstone'  
Blc. Sheerwater Passage x Blc. Pamela Hetherington 'Coronation'  
L. sincorana x C. walkeriana L. dyana coerulea x self - 5pl  
L. purpurata 'Queen' x 'Crothers' C. guttata x sibling  
plus 50 other crosses

### NATIVE SEEDLINGS — 10-15 plants

D. tetragonum 'Giganteum' x D. Hastings  
D. kingianum 'Red Lip' x D. tetragonum 'Coffs'  
D. speciosum x tetragonum = (Hilda Poxon)  
D. (tetragonum x Eureka) x D. suffusum  
D. kingianum 'Pink' x D. falcorostrum = (Bardo Rose)  
D. kingianum semi alba x D. speciosum 'Yellow'  
25 others available including sarcochilus

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Many hobby growers have experienced problems in buying flasks and growing the plants on. They either don't have the right conditions or they kill them with too much TLC.

**We can solve this problem —**

- you send us the flask(s) and we will deflask and grow on your plants for 4 - 6 months.
- when the plants are ready we give you a call.
- we supply the pots, mix, fertiliser, fungicide and the know how.
- insurance against fire and malicious damage is available.
- our price for small quantities is \$1.50/plant.
- interstate enquiries welcome. (Priority paid mail is cheap and efficient in this regard).
- Commercial enquiries are also welcomed.

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**CYMBIDIUM ORCHIDS**  
... something a little different.

Catalogue available on request. Mail orders and nursery sales.  
Please telephone before calling at nursery.



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Nursery situated at 281 Hahns Road, Willunga.

*These are just a few of the parents being used in our breeding programme here at our Nursery.*



Int./Cymbidium  
Mimi Lucifer x Carikhyber



Int./Cym. It's Magic, HCC/OCSA 1985



Int./Cym. Showoff 'Bright Eyes'  
(Champion Intermediate 1985 SCOC  
Winter Show)



Group of 5 new Intermediate seedlings  
flowered at our Nursery 1985

The following Intermediate crosses are an example of the seedling flasks available now from our Nursery flowering April/May at \$60 each.

- A413** Peter Pan 4N x Ovation 'Iris' — Top greens with 18 plus blooms.
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Send stamped, addressed envelope for our 1986 Standard and Intermediate/Miniature cymbidium Flask Catalogue.

Visitors to our Nursery are very welcome. The Nursery is open at weekends; week days by appointment. **Phone (085) 56 2419**



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**ANY TEN YOUR CHOICE FOR \$40.00**

(Plus Skyroad freight \$8.00)

- |             |  |                    |
|-------------|--|--------------------|
| <b>7045</b> | Den. Merlin Flake 'White Ruffles' x 'White Icing'                            | 50mm <b>\$5.00</b> |
|             | Two extremely floriferous clones combined to produce masses of white blooms  |                    |
| <b>7047</b> | Den. Merlin Flake x Malones 'Fantasy'  | 50mm <b>\$5.00</b> |
|             | Those flowered were a delicate pink. Large flowers.                          |                    |
| <b>7048</b> | Den. Merlin Flake x Christmas Chime 'Asuka'                                  | 50mm <b>\$5.00</b> |
|             | Expect well shaped, large white blooms.                                      |                    |
| <b>7051</b> | Den. Merlin Flake x Adele Fortesque 'Bonanza'                                | 50mm <b>\$5.00</b> |
|             | Expect cream to yellow blooms some with purple splashes                      |                    |
| <b>7053</b> | Den. Merlin Flake x Oborozuki 'Yellow Bird'                                  | 50mm <b>\$5.00</b> |
|             | Expect cream to yellow blooms of good shape                                  |                    |
| <b>7058</b> | Den. Merlin Flake x Sunshine State 'Pure Gold'                               | 50mm <b>\$5.00</b> |
|             | Expect yellow to golden blooms   |                    |
| <b>7060</b> | Den. (Snowflake x Duo) x Dorrigo 'Wistaria'                                  | 50mm <b>\$5.00</b> |
|             | Expect very pretty light mauve blooms.                                       |                    |
| <b>7061</b> | Den. Merlin Flake x Yukidurama 'The King'                                    | 50mm <b>\$5.00</b> |
|             | Those flowered were excellent. Large white blooms dark black/maroon labellum |                    |
| <b>7066</b> | Den. Merlin Flake x New Moon   | 50mm <b>\$5.00</b> |
|             | Expect yellow to gold blooms of good quality.                                |                    |
| <b>7068</b> | Den. Merlin Flake x Hinazura 'Winifred Fortesque'                            | 50mm <b>\$5.00</b> |
|             | Expect quality large blooms.   |                    |

## FLASKS

of 30 Plants @ \$25.00 each. (Freight as above)

**ANY FIVE @ \$22.50 each, ANY TEN @ \$20.00 each**

- |            |   |
|------------|---|
| <b>770</b> | Den. Miyuki 'Pink Tips' x Yodogimi. Very floriferous white with pink tips crossed with a cream with pink edging.                                  |
| <b>771</b> | Den. Miyuki 'Pink Tips' x Sao Paulo 'Memory'. Very floriferous white with pink tips crossed with a very large purple.                             |
| <b>772</b> | Den. (Slowflake x Konan) 'Red Lion' x (Renown x Permer x Snowflake) 'Black Velvet'. A very bright dark purple crossed with a dark velvety purple. |
| <b>773</b> | Den. Yukidurama 'The King x Miyuki 'White Beauty'. Large white dark purple eye on labellum crossed with a very shapely pure white.                |
| <b>774</b> | Den. (Snowflake x Konan) 'Red Lion' x Crimson Flake 'Purple Glow'. A very bright dark purple crossed with another bright purple.                  |
| <b>777</b> | Den. (Snowflake x Duo) 'Petite x Golden Talisman 'Yamabuki'. A very floriferous small purple crossed here with the deep gold 'Yamabuki'.          |

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 81179 Excalibar 'Galahad' x Bexley Radiance 'Bexley' — darker colours.  
 81218 Sleeping Dream 'Kings Ransom' x Sarah Jean 'No. 1' — pure colours.  
 8235 Melinga 'Golden Sunrise' x Sarah Jean 'Toms Delight' — greens and yellows.  
 8237 Amesbury 'Frank Slattery' x Sarah Jean 'Toms Delight' — greens.  
 8274 Beacon Fire 'Cecil Park' x Rincon 'Clarisse' — pink to red.  
 82141 (Zuma Boyd x Sleeping Beauty) x Hanama — unusual colours.  
 82163 Coraki 'Norah' x Beacon Fire 'Cecil Park' — sunset shades.  
 82185 *ensifolium* x Bexley Radiance 'Bexley' — red.  
 82292 Melinga 'Golden Surprise' x Sarah Jean 'Jodie Leanne' — pure yellow colours.  
 82333 (*pumilum* x Emperor) 'Stevie' x Rincon 'Clarisse' — pink to red.  
 82383 (*pumilum* x Emperor) 'Stevie' x Amesbury 'Frank Slattery' — olive green, some polychromes.  
 82407 (*pumilum* x Emperor) 'Stevie' x Kurun 'Maggie' — deep pink to red.  
 82431 Amesbury 'Frank Slattery' x Melinga 'Yellow Bird' — green.  
 82441 Amesbury 'Frank Slattery' x Poetic 'Moomba' — green.  
 82451 *ensifolium* x Poetic 'Moomba' — green.  
 82459 Amesbury 'Frank Slattery' x Wiena '#1' — green to brown.  
 82465 Showgirl 'Marion Miller' x Wiena '#1' — white to light pink.  
 82467 Showgirl 'Marion Miller' x Rio Rita 'Radiant' — pinks.  
 82479 *ensifolium* x Wiena '#1' — yellow to sunset shades.  
 82811 Beacon Fire 'Cecil Park' x Terama 'Robin' — dark red.  
 82823 — Sylvania 'Sonnet' x Greenoaks Gem — white to pink.  
 82835 Tetsugetses x Kiata 'Nightshade' — dark red.  
 82839 Tetsugetses x Sensation 'Chianti' — dark red.  
 82842 Tetsugetses x Coraki 'Norah' — sunset shades.  
 82845 Tetsugetses x Terama 'Robin' — dark red.  
 82846 Tetsugetses x Sylvania 'Sonnet' — light pink.  
 82848 Tetsugetses x Tongariro 'Flare' — polychrome.  
 82874 Mimi 'Mary Bea' x Wyalong 'Orange' — red to orange.  
 82883 Tetsugetses x Kurun 'Maggie' — rose pink.  
 82886 Kiata 'Nightshade' x Moria 'Royal Oak' — dark red.  
 82899 Kiata 'Nightshade' x (Zuma Boyd 'Magnificent' x Sleeping Beauty 'Classic') var Olive — expect browns.  
 82901 Tetsugetses x (Zuma Boyd 'Magnificent' x Sleeping Beauty 'Classic') var Olive — polychromes.  
 82906 Tetsugetses x Hamsey 'The Globe' — pink to brown.  
 82908 Tetsugetses x Terama 'Yowie Bay' — dark red.  
 82910 Tetsugetses x Winter Fair 'Crystal' — white to light pink.  
 82911 Tetsugetses x Mavoureen 'Cooksbridge' — polychromes.  
 82912 Tetsugetses x Fred Stewart 'Olympus' — white to light pink.  
 82916 King Arthur 'Imperial' x Sussex Dawn 'Dorothy May' — greens to yellows.  
 82921 Sarah Jean 'First Lady' x Fred Stewart 'Olympus' — white to green.  
 82929 Beacon Fire 'Cecil Park' x Hamsey 'The Globe' — orange to brown.  
 82935 King Arthur 'Imperial' x (Zuma Boyd 'Magnificent' x Sleeping Beauty 'Classic') var Olive — yellows and greens.  
 82938 Tongariro 'Flare' x Tetsugetses — polychrome.  
 82949 Bingo 'Little Sue' x Hamsey 'The Globe' — pink to brown.  
 82950 Bingo 'Little Sue' x Tongariro 'Flare' — polychrome.  
 82955 Bingo 'Little Sue' x Fred Stewart 'Olympus' — white to dark pink.  
 82959 Mimi 'Sacramento' x Sussex Dawn 'Dorothy May' — green to brown.  
 82960 Mimi 'Sacramento' x Fred Stewart 'Olympus' — yellow and brown.  
 82968 Mimi 'Sacramento' x Wyalong 'Orange' — orange to brown.  
 82994 Kiata 'Nightshade' x *devonianum* 'Spring Bluff' — deep red.  
 821030 (Doris Aurea x *devonianum*) x Winter Fair 'Crystal' — dark red.  
 821061 (Spartan Queen x Sensation) x *pumilum* 'Brown' — red to brown.  
 821088 *maddidum* var *leroy* x *pumilum* 'Brown' — green, brown to bronze.  
 821089 *maddidum* var *leroy* x Ora Lee 'Braemar' — green to yellow.

(1) Orders are filled as received. Packaging and freight are extra (at cost). Send no money with order, just name, address and phone number.

(2) All parcels will be sent interstate by IPEC to your door unless an alternative is requested. Wherever possible plants will be shipped in pots.

(3) Please advise with order if substitutes can be made.

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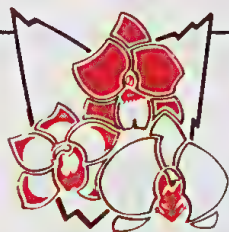
No. 041 (*Odm. Elpheon* x *Oda. Crutordo*). No. 257 *Oda. San Elijo Gem* (*Oda. Minel* x *Oda. Lautrix*). No. 594 (*Milt. bluntii* x *Oda. Keith Gaskell*). No. 653 ((*Odm. Red Queen* 'Burnham', AM/RHS x *Oda. Brocade*) x *Odm. Perrymanda*). No. 661 (*Odcdm. Golden Dawn* 'Chestnut Cloud', AM/RHS x *Odm. Mach Two*). No. 725 ((*Odm. Tees* x *Onc. incurvum*) x *Oda. Shelley*). No. 751 ((*Oda. Trixon* x *Oda. Lautrix*) x *Oda. Remembrance*). No. 780 (*Mtssa. Cartagena* x *Oda. Dorold*). No. 796 ((*Oda. Mem. Donald Campbell* x *Odcdm. Tiger Butter*) x *Odcdm. forbesii*). No. 928 (*Vuyl. Feuerzauber* 'Rothaut' x *Oda. Echanson*). No. BW20 *Odcdm. Biti* (*Onc. tigrinum* x *Odm. bictoniense album*). No. RF23 ((*Odm. bictoniense* 'Karen; x *Odm. hallii*). (*Odm. Cristor* x *Cristor*). No. B.1 *Miltoniopsis Nancy Bings* (Gascogne Cindy Kane 'Waterfall')

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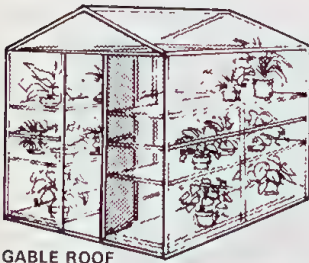
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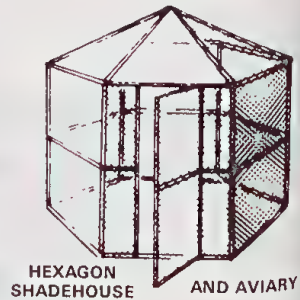
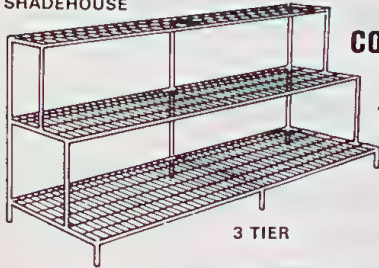
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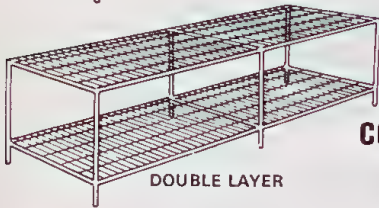
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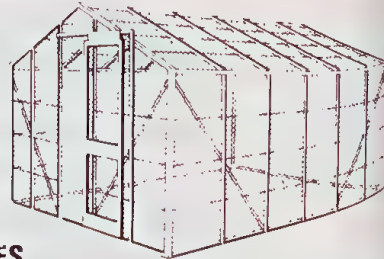
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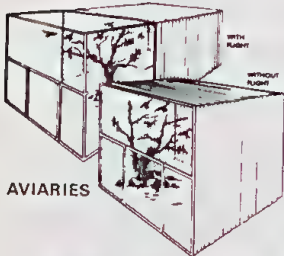


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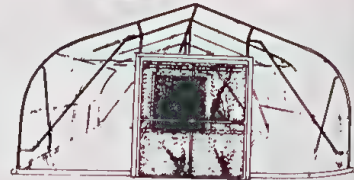
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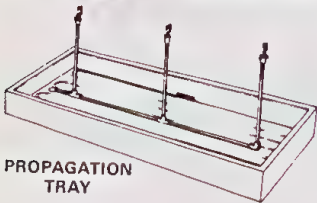
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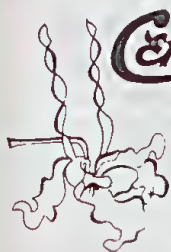
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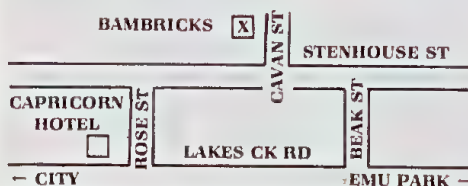


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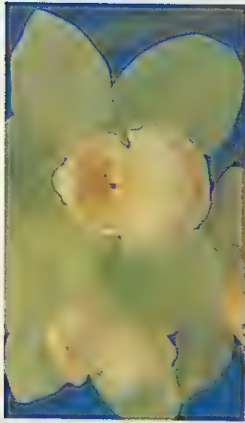
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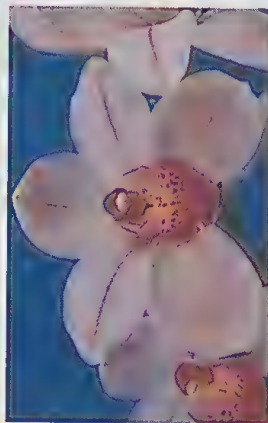
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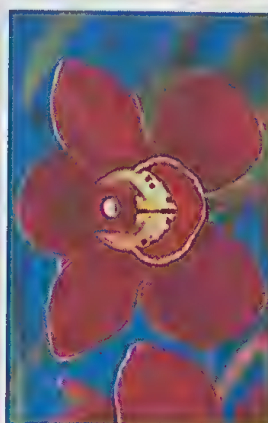




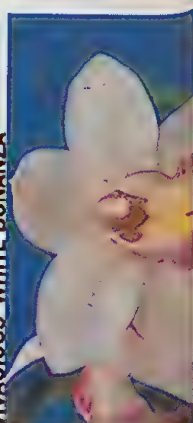
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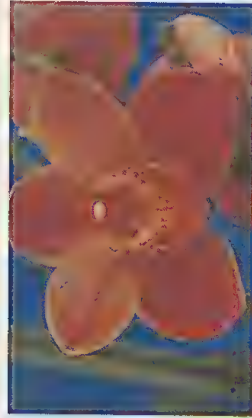
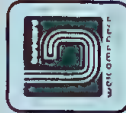
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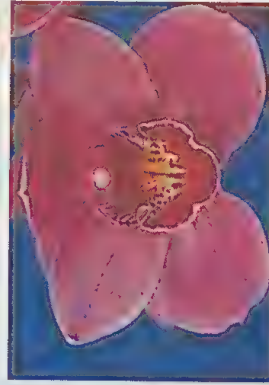
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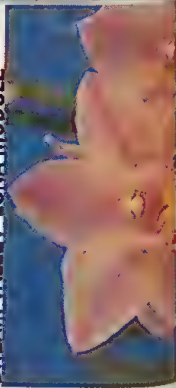


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1986



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**SUBSCRIPTIONS:** 1986/1987 within Australia \$A37.00, 1986 \$A20.00.

Overseas surface: 1986/1987 \$US37.00, 1986 \$US20.00.

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# Australian Orchid Review

VOLUME 51 — No. 4

NATIONAL HERBARIUM  
OF  
VICTORIA

SUMMER 1986

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### COVER STORY

A very special cover for our last issue of 1986. It features the just released 1986 A.O.C. Awards Book, with Wal Rhodes' *Paph. Amanda* 'Camira' on its cover.

*Paph. Amanda* 'Camira' is the 12th recipient of the A.O.C. Orchid of the Year award. Wal Rhodes' who hails from Mount Colah, NSW, bred the winning orchid. He also becomes the very first recipient of the Australian Orchid Review Perpetual trophy.

A.O.R. hopes to include a feature on Wal Rhodes in our next issue.

Incidentally, the 1986 Awards Book is available right now, as is the A.O.R. 1987 Orchid Calendar.

The Awards Book is great value at just \$9.95. The 1987 Orchid Calendar has been reduced in price this year and costs only \$8.95.

As copies of BOTH the Awards book and the 1987 Orchid Calendar are limited, make sure you don't miss out. Send in the special coupon NOW and you will save \$4.90 if you buy both titles AND you will also receive a FREE set of orchid coasters.



# LETTERS TO THE EDITOR

Dear Sir,

I would like to express my appreciation for the Australian Orchid of the Year trophy that your Company has presented to the Australian Orchid Council. I was only sorry that I could not have attended the presentation in Adelaide to receive the perpetual trophy and magnificent cup which I will treasure for many years to come.

As my breeding programme of Paphiopedilum orchids increases I feel sure that the name Amanda 'Camira' will prove not only that it was Orchid of the Year, 1986, but may be some of its progenies will capture this prize in years to come. I have since re-made the cross Sonbird which was Orchid of the Year '84 using Amanda Camira instead of Amanda Joy and I believe it could be a superior cross.

Enclosed for your library is a photograph of myself displaying your trophy.

My sincere thanks to the wonderful production of Awards '84, '85 and especially '86 Front Cover.

Looking forward to Awards '87.

Yours faithfully  
Wal Rhodes



Wal Rhodes proudly displays the Australian Austrailian Orchid Review perpetual trophy of Orchid of the Year.

Sir,

Congratulations to Maurie Black for his 'Get it Right' in A.O.R. 51.2. He optimistically uses the words 'Time gentlemen please' to introduce his subject but it seems that time has little relevance to orchid growing experience. From my own observations I believe the 'old timers' in orchid culture are the worst offenders and unfortunately they are accorded much more reverence by the 'younger set' than they really deserve. This is a pity for it does nothing to improve the situation; the newcomers to orchid growing listen avidly to these experienced persons and so bad pronunciation is propagated.

Mis-pronunciation like the shocking example of Cattle-ay-a is bad enough but mis-use of terms causes even greater shudders to my nervous system. The most

common mis-usage is the word 'spike' in lieu of the correct term 'raceme' or 'panicle' where the latter is applicable. *Gladiolus* has a spike but not an orchid. However, far worse than this is the reference to *Dendrobium* family when clearly genus should have been used. How can we possibly expect newcomers to orchidology to do merit to their hobby when this sort of statement is propagated? *It seems that time will never be long enough for some people to learn.*

I have friends and colleagues whose hobbies cover such subjects as radio, steam trains and stamp collecting and all of these people take a delight in 'getting-it-right' and understanding the technical terms involved in their hobbies. Why cannot orchid growers do the same? When one sees such terms as the *Dendrobium* family (or

# LETTERS TO THE EDITOR

the *Pelargonium* family) I, for one, have little faith and belief in the accuracy of the accompanying text, if there is one. Now in all fairness I know quite a few orchid growers who earn a living as airline aircrew, computer engineers, medical practitioners, research scientists, accountants and so on. No one could accuse such people of being sloppy or mentally retarded and I believe these people naturally put great effort into their hobby and are anxious to learn.

I do have some sympathy for those growers who have not had any formal training in pronunciation. It is rather difficult and in some respects depends whether the word is of Latin or Greek origin and even botanists cannot be expected to have such expertise. Botanical Latin is essentially a written language of modern origin evolving since 1700 and according to E J H Corner it is so different from classical Latin as present English is from Chaucerian English. To compound the difficulty we have both 'reformed academic and traditional English' systems of pronunciation. Consider the genus *Coelogyne*. The reader will probably pronounce this as see-log-in-ee but in N. Borneo it is called see-loh-geye-nee and after all we do say geye-nee-col-ojee not jeye-nee-col-ojee. In reformed academic the g is always hard as in 'get' but in traditional English it is only hard before a, o and u and soft before e, i and y. There are many such examples. Which is correct?

In Botanical Latin all vowels are sounded but one must learn to recognise diphthongs which consist of two vowels together said as one. Sometimes we have two vowels together such as o and i which do not form a diphthong, so are said separately. An example coming immediately to mind is 'jasminoides' which should be said as jas-min-o-ee-deez with a short o as in golf with the o and i sounded separately but if I said this in any nursery in Australia no one would understand me. Even botanists of my acquaintance say oi-deez with the oi said as in boy.

Then there is the question of placing stress on the correct syllable, usually the penultimate when the vowel is long but on the antepenultimate when the penultimate vowel is short, so here is a further dilemma. We have to decide whether the vowel in the syllable next to the last syllable is to be long or short and this in itself produces variations. Then there is the self-styled humourist who says bij-ee-bum for bigibbum which is no help to the newcomer.

So, Mr Black, getting-it-right does present some difficulties although as you correctly point out many of the generic names are commemorative as is *Cattleya*, *Ameiella* and *Brassia* and should be said accordingly but what does one do with an epithet like *warscewiczii* without some training in pronunciation?

If sufficient orchid growers express an interest in the subject the Australian Orchid Review may persuade the Australian Orchid Council to form a committee to produce a saleable booklet on pronunciation for Australian orchid growers, a project which may well merit funding by the Australian Orchid Foundation. Preserve us from slavishly following pronunciation from the USA which we find peculiar in many cases.

Gordon C Morrison  
Bullcreek, WA

## A letter that appeals

Sir,

While recently in hospital for a time I met a terminally ill cancer patient who maintains interest in the world by collecting society badges. In view of this could you please consider putting a small space aside in the *AOR* to make an appeal for orchid societies to send him a badge at the following address: Mr Geoff Baker, 78 Ocean Street, Windang, NSW 2503.

Sincerely,  
J R Hinton



# A TRIP INTO HISTORY

As readers must by now be aware, this is the 50th year of publication of the *Australian Orchid Review*.

We thought it would be appropriate to publish, in its original form, the following articles from the very first issue of the "Review".

The nomenclature may be incorrect by current usage. Readers will, no doubt, enjoy "spotting" the differences.

## The Orchid Society of New South Wales

L F Hawley

**T**he Orchid Society officially came into existence on August 7, 1934. The membership of the Society now is very close to the century mark, and so that those who follow in years to come may learn — if they are interested — of how the Society originated, this article is written.

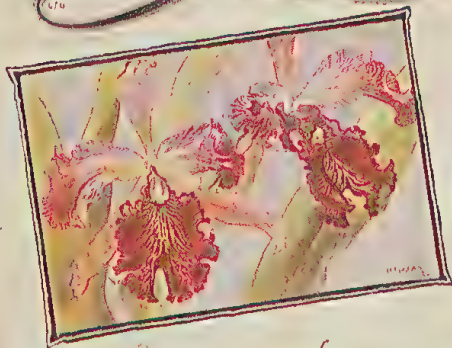
Early in 1931, N S F Macdonald, of Summer Hill, and J Bisset, of Abbotsford, came together and as a result of their association it can be said the Society owes its origin. Both at the time were growers in a very small way. Later, C Cambourn, of Five Dock, became acquainted with MacDonald and Bisset, and occasional discussions pertaining to the culture of Orchids amongst these enthusiasts soon developed into regular weekly meetings at Macdonald's Surgery.

The next to join these gatherings were H Trinter and L F Hawley, both of Summer Hill. The meetings were held every Tuesday evening, and at the conclusion, Macdonald's collection was inspected and any progress or deterioration duly noted. Visits to one another's collections became a recognised practice, and the friendly criticism thus engendered did much to increase the knowledge and sustain the interest of this small band of enthusiasts. Later, T H James — the present Honorary Secretary — and G Hermond Slade became interested in these meetings, and it soon became evident that the time was fast approaching for the formation of an Orchid Society.

Actually, the subject was discussed at a number of meetings, but nothing tangible was done until July 3, 1934. On this date, Mr Bisset invited a number of growers to his home at Abbotsford. Obviously those present were keenly interested in the culture of Orchids, and, after Orchid topics had been freely discussed, Dr. Burstal proposed that the time was opportune for consideration to be given to the formation of an Orchid Society, and it was his insistence upon something more definite than an occasional friendly meeting that actuated those present to heartily support the Doctor in his suggestion that a Society should be formed in New South Wales. A provisional committee was thereupon formed, and notices of a proposed meeting were duly despatched to all known to be Orchid growers to those present, to attend a general meeting at T H James' home in Longueville. The meeting was held on July 16, 1934, and the question of the formation of the Society was formally discussed. At this meeting a provisional committee was appointed to draw up rules and regulations, and for this purpose the committee met at Dr Burstal's home the following day.

The first general meeting was held at T H James' home on August 7, 1934, when the Orchid Society of New South Wales officially came into being. The following were elected to become the first officers of the Society: President, His Honour Judge H F Markell; Vice-President, Dr C A Jaede;

January, 1936.  
—Mar.—  
Australian  
ORCHID  
REVIEW



Price 1/6

The Official Organ of  
The Orchid Society of N.S.Wales.

The front cover of the very first A.O.R., issued in January, 1936. The colour illustration was produced separately and adhered to the cover.

Vice-President, Rev H M R Rupp; Hon. Secretary, T H James; Hon. Treasurer, L F Hawley; Committee, Dr A C Burstal and S C James.

For some few months the meetings of the Society were held at the home of T H James, but as the membership increased additional accommodation became necessary, and His Honour Judge Markell kindly made a room available in the city. However, the membership still increased, and further accommodation had to be found. A portion of the Sydney School of Arts building was then used for a few meetings, until the Society transferred to its present well appointed home in Phillip House, Phillip Street, Sydney.

The first annual meeting of the Society was held on August 29, 1935, and replaced the usual monthly meeting. The function was held at the State Shopping Block, and was of

a semi-social nature. The attendance was large and enthusiastic, the accommodation being taxed to its fullest. At the meeting it was proposed to publish a Journal, and this has now become an accomplished fact. the first annual report of the Society was read and considered. Subsequently the President suitably address the members, covering the whole of the activities of the Society, and also dealing with the culture of Orchids generally. Vice-President, the Rev H M R Rupp, and Mr E A Hamilton also made an address to the report. The room was beautifully decorated with Orchids. The tables were arranged U shape, and the plants displayed along the centre. Several specimen plants of *Cymbidium* and of *Dendrobium Nobile* were exceptionally well grown and carried upwards of one hundred blooms on each plant. The President, Judge Markell, Mrs E M. Mit-



chell, C Gosper, J Bissett, H Taylor, and numerous others brough along exhibits, which included *Den. Nobile*, *Den. Xanthrocentrum*, *Den. Thwaitesii* and *den. findleyanum*, various *Cymbidium* species and hybrids, *Cypripediums*, *Cattleyas*, *Brasso-Cattleyas*, *Laelio-Cattleyas*, *Vandas*, and many other Orchids.

After the annual report had been presented and adopted by the meeting, the election of a committee for the ensuing year was proceeded with. As the whole of the standing committee had been re-nominated, with the exception of Dr Burstal (the demands of his practice necessitated his standing down) and as there were no further nominations, the old committee was duly re-elected, with the addition of E A Hamilton, C Gosper, G Hermon

Slade and R M Stewart.

Since its first meeting, the Society has flourished beyond all expectations, and its official display at the Royal Horticultural Society's October Show in the Sydney Town Hall was greatly admired, and received much publicity. The Society, after only a little over a year in existence, has a substantial credit balance at the bank, and has received official recognition by numerous similar bodies throughout the world. The Orchid Society of New South Wales has thus been the means of making closer alliance and co-operation between those growers and lovers of Orchids who attend its meetings and who are on its correspondence list, and has fully justified the endeavours of the pioneers of the Society, who can justly claim to have builded well.

# Our Terrestrial Orchids

A G Hamilton, F.R.H.S., Chatswood, Sydney, N.S.W.

**M**ost Orchid growers devote their attention to the Epiphytal Orchids, neglecting the Terrestrial species. These are equally attractive but do not produce such masses of blossom as some of the epiphytes; but are still very interesting and are worthy of cultivation and provide many problems in their pollination, very little being known as to the methods.

Probably the neglect of these plants is due to the fact that they are difficult to transplant. Unless they are taken up with the utmost care, the roots are damaged, and consequently some of the mycorrhizal fungus are lost, and Orchids depend (very largely, if not entirely) on these symbiotic organisms for healthy growth. The most successful method is to take a jam tin of suitable size and melt off the lid and bottom of the tin, thus leaving a hollow cylinder. drive this down round the plant till the mouth is level with the surface of the soil; then insert a spade under the cylinder and you can lift the plant with its roots undisturbed. If the whole thing is planted, the metal will gradually rust away and leave the plant *in situ*; the soil should, of course, be of the same nature as that in which the plant originally grew.

Among the terrestrials of New South Wales there are many striking and beautiful species, but the most remarkable are found in Western Australia, which has many fine plants of the order. The largest New South Wales terrestrial species are *Phaius* and *Calanthe*. *Phaius* appears to be rather difficult of cultivation, at any rate, in the vicinity of Sydney, but *Calanthe* is quite easy. *Phaius* may be considered a semi-tropical plant and grows in swampy country. *Calanthe* once extended as far south as Bulli, but has been extinct there for many years. It is remarkable for its large fluted leaves and the flower stalks reach to nearly two feet. It bears a spike of pure white blossoms, but before opening the buds have a bright green tip.

*Dipodium* and *Gastrodia* are fairly common all along the coast. They are both leafless. the former is found in open forests, while *Gastrodia* is usually found in brush forests — rain forests. *Dipodium* is sometimes called "Native Hyacinth" and "Plum Pudding Flower," the flower being pink of varying shades with darker spots. It flowers in summer, and being leafless must make great use of its mycorrhizae. The method of pollination of these two plants is still

unknown. *Dipodium* is said (in one species, at least, in New Guinea) to be an epiphyte growing on the trunks of trees. Many leafless plants are root parasites, and both these species may possibly have that characteristic. *Gastrodia*, as mentioned, is a denizen of the brushes along the coast. It has a large tuber more or less scaly, and is sometimes called "Native Potato." The tuber is white and the flowers are white suffused with rusty-brown. New Zealand has four species of this plant, and many occur in North America and are vigorously known as "Indian's Pipe" and "Ghost Flower". Certainly all these plants growing in the gloom of the dark forest have a ghostly appearance.

Another of the leafless group of Orchids is *Galeola cassyhoides*, which grows in our State along the coast, usually in a sandstone soil. It is a climber, growing up to ten or twelve feet in height. The stem and bracts are brown, and it bears short branches which act as suckers to cling to trunks of trees; but these do not in any way take nourishment from the tree, although it may be noticed that the bark of the tree thickens up along the sides of the suckers. It is reputed to be a root parasite, and is certainly very difficult to grow. Mr Tucker, a resident of Paterson, NSW, succeeded in growing one after planting a great many roots. The NSW variety is exceeded in size by the Queensland species, *G. Frazeri* (previously known as *Ledgeriana*). Mrs Curtis, of Tamborine Mountain, observed one growing through the branches of trees and over fifty feet in length, which may be considered, I think, a record size for an Orchid. Another leafless Orchid is probably the most extraordinary of the tribe *Crytalhemis Slateri*, which grows entirely underground. It was discovered by Mr Slater, at Bulladelah, but another underground Orchid was previously discovered by a farmer which ploughing in Western Australia, *Rhizanthella Gardneri*. Although these two plants belong to different genera, they bear a close resemblance to each other. The flowers come to the level of the ground; and so are very difficult to detect among the grass and scattered dead leaves. The whole of the plants except the flowers are white

and must be saprophytes deriving their nourishment from organic matter in the ground and that supplied by mycorrhizae. I believe that in the Malay Archipelago other species occur having the same habit; and since the two under our notice occur in such widely separated localities, they will probably be found in other States.

The small genus of *Corysanthes* contains a few very beautiful flowers of a hooded shape, the colour being crimson with white markings, which are semi-transparent and of a frosted appearance. They grow in humus soils in shaded places and should make good pot plants. They should not be confused with *Coryanthes*; a genus of American Orchids.

The genus *Cryptostylis* contains three species, *longifolia*, *erecta*, and *heptichila*, usually found in sandstone country. They are very easily grown and flower readily under cultivation.

*Prasophyllum* is a large genus having small flowers, many of them quite minute. They have the peculiarity, by a twist of the stalk, of bearing their flowers upside down; and this probably has some relation to the method of pollination.

*Spiranthes Australiis* belongs to a genus found in the Northern Hemisphere. Although small, it is a very attractive plant; the flowers are crimson and white and arranged in a spiral on the stem. It appears to be tolerant of various habitats. It often grows in swampy places, but does equally well in fairly dry conditions, and on one occasion I found it growing among loose sandstone packing between the sleepers in the railway line near Bulli.

We hope you have enjoyed reading these two articles from the first ever issue of Australian Orchid Review. Orchid cultivation has come a long way since 1936, as has Australian Orchid Review. Today, A.O.R is the second largest orchid magazine in the world, in both size and readership.



# BACK HOME AGAIN!

## OSNSW SPRING ORCHID FESTIVAL

by O R Kidd



General view of the show, taken from the stage.

After an absence of many years, The Orchid Society of New South Wales Ltd, returned to the scene of former glories, the Main Hall, Sydney Town Hall, for its 1986 Festival.

Lack of whole-hearted support from several of the major affiliated societies saw a smaller than usual festival presented to the public.

The main bone of contention and opposition by those Societies who declined to participate was access to the Hall. Despite these misgivings, and doubts of workability, the pre-planning of the Show Committee in using the huge lift worked extremely well.

Exhibitors were quickly and efficiently organised into the lift and in no time at all, the plants, props and display materials were in the Main Hall, and available for the eager beavers to get "cracking".

While numbers of exhibitors were down, there was no complaint about the quality and variety of orchids on display. Colour, colour and colour was the predominant scene in the displays. *Lc. Chit Chat* 'Lorna' and 'Tangerine', together with *Lc. Rojo* and other smaller novelty types of cattleyas bedazzled the eye and created a bright spectacle.

Mention must be made of the magnificent display of soft cane dendrobiums in many, many shades and hues of colour presented by Banana Coast Orchids. This was a "second string" display, as this firm also had shown at the Adelaide Conference. Poor ticketing and an unimaginative flat display marred the splendid effort. Next time a tiered display will show all the charms of these, nowadays, fashionable orchids. It was awarded a Silver Medal.

The North Shore Orchid Society, which



has of late, had more "ups and downs" than a yo-yo, bounced back and took the top placing in the District Exhibit. The writer particularly liked the open walk through pergola effect, as it did not "break up" the display of quality and colour 84.5 Points. Well done!

Parramatta District Orchid Society as usual presented a magnificent display of quality and variety, but packed the cymbidiums.

Incidentally when is a display not a display, but three displays. This entry was segmented by bark paths and did not have a perimeter fence. 82.3 Points.

The S.P.E.C.I.E.S. Society had a walk over in the smaller displays, as Five Dock RSL Orchid Society were unable to compete due to a clash of dates. This was perhaps the best of this groups efforts so far, well displayed and finished. Notable plants included a mass of *Paphiopedium linii*, *Phalaenopsis sturtiana*, *Laela harpophylla* and *Schom.lueddemanni* and *Cattleya aurantiaca*, all very showy and eye catching. Well done S.P.E.C.I.E.S!

The natives and hybrids display, saw a very polished and well arranged entry from Cumberland Orchid Circle. Featuring mas-



Champion Standard Cymbidium and Grand Champion of the Show, *Cym. Narella 'Jennifer Gail'*. Owned by J. Mata.

Best Display by an Affiliated Society, the North Shore Orchid Society.







Best Smaller Display by  
an Affiliated Society,  
S.P.E.C.I.E.S. Society

ses of flowers of many hues and varieties. A very worthy winner.

A small well-finished and presented display from Messrs Hipkins, Healey, Mata and Gutteridge, all from Bankstown, caught the eye. Quality, variety and colour, this group carried the imaginative touch of "tiny" Hipkins, who has a natural flair for display.

Grand Champion Orchid, and Champion Cymbidium, *Cym.* Narella 'Jennifer Gail' was entered by John Mata, the Prince of Cymbidium growers, while a second plant gained Reserve. John also won Best Two with yellow Arcadian Sunrise 'Golden Fleece', awarded a HCC and the white Nicky Ann 'Jess Palm'. Well done John!

Other prominent winners included:

- Champion Miniature/Intermediate, *Cymbidium* Excalibar 'Galahad' owned by R Pilcher, showed up well with four or five strong spikes of pinkish flowers.
- Native Champion — *Dendrobium* Bardo Rose was a fine form of this well known hybrid presented by C Shepherd.
- Champion Cattleya, *Blc.* Sylvia Fry 'Wallace' FCC exhibited by R. Montgomery, was a fine large flower. Due to "over grooming" the excessive flatness of the petals detracted from the natural beauty of the frilling and goffering of the bloom.

An old time Paphiopedilum, Thule 'The Globe' shown by Wondabah Orchids, won Champion Paphiopedilum, one of the green spotted types, this is very shapely and well-named.

One of the best phalaenopsis plants in Australia, Alice Gloria 'Cecil Park' grown by J & M Gulbis added another championship to the ever expanding list of successes.

A massive, huge form of *Rossioglossum grande* entered by Barry Long was declared Champion Exotic Species. Huge yellow and brown flowers carried the day. One of the largest flowers seen.

*Miltonia* Rouge 'California Plum', an improving mericlone, staged by Wondabah Orchids, took out The Champion Orchid of the Oncidium Alliance. This should be very good on a large plant, the colouring being very impressive.

Any other variety Champion was *Asco-centrum curvifolium* x *Ascocenda* Yip Sum Wah owned by J & M Gulbis. A magnificent erect spike of shapely bright pink flowers caught the judges eye.

As a trial run for the Bicentenary Show in this venue for 1988, the organising was a great success. The drawback as mentioned previously was the lack of support. Another point to be given more thought and consideration is the vexed question of "Open type" displays. What is an "open type" display — surely not one with packed orchids and open paths?

With a lack of plants, due to a late season in the area, Western Suburbs Orchid Society used masses of ferns to "fill in" between their Orchids — each plant was clearly visible and the display "uncluttered".

Surely this was the display nearest to complying with the "guide lines" of the schedule.

# These will DEFINITELY be my Last!

JO-ANN C. BURKE

Orchids, the queen of flowers, magical, fascinating: what delightful thoughts the words conjure up. One sees the image of a genteel lady strolling through her glasshouse admiring the blooms, stopping now and then to give special attention to one plant or another.

But we orchid growers know just how far removed from the truth this image really is, don't we?

I've been addicted for almost twenty years to the growing of these fabulous beauties, and as with most addictions there's little or no lessening of the compulsive attraction.

In the early days of my on-going love affair I tried almost every orchid obtainable that would grow without heat: most of these "miscellaneous genera" repaid me with success, but cymbidiums have always been my greatest love. Over the years I've concentrated more and more on this genus, both species and hybrids, until now they form the greater part of my collection. I have a particular interest in miniature and intermediate types.

In 1970 I bought my first hybrid minis from Jupp's Nursery and Reg Trenerry in NSW. These included *Cymbidium* Petite, C. Pat Ann, C. Camelot, C. Celadon, C. Lancelot 'Castle Crag' and C. Nancy Maxwell 'Northbridge'. A small plant of C. Kyancutta was purchased as an unflowered seedling. Fifteen years later I'm still waiting for it to flower! It's a neat little clone that every year looks ready to put up spikes but ends up with more growths. I've tried to shock it by division, with no effect. "Get rid of it," the light-of-my-life says, but this is the one I'm treating as the ultimate challenge.

All the others bought at that time flower regularly. Even though they don't conform to "round is beautiful" they're little charmers: I keep them because my plants are grown primarily for pleasure and appreciation.

I still remember the remarks of one particular commercial grower who said to me in a somewhat disgusted tone, "But

they're ladies' orchids. Just can't see them becoming popular at all".

Later he was to change his mind dramatically when these "ladies' orchids" became the sought-after trend! Hybridisers began new breeding lines with ever-increasing momentum, which even now shows no signs of abating.

As one gets older and the grey hairs appear at a faster rate (and particularly when you strike a time you're not feeling A1 super-beaut) the thought that begins to surface with monotonous regularity is, "I really must cut down the number of orchids I have". But although the flesh is getting weaker the spirit is still very willing.

Springtime being the traditional period for orchid shows there are always certain plants tabled that you simply must add to your collection. Around about this time too, you go on a glasshouse visit arranged by your favourite orchid society. If you can't coax the owner of a coveted clone to part with a surplus division when you wave banknotes of large denominations in front of his implacable eyes, out comes the "wants" book. And you're off again on the same old merry-go-round.

So is it any wonder your despairing spouse moans, "All right, so you've sold some, but where's the extra space? Doesn't look any different to me!"

But as with anything worthwhile, pleasure and satisfaction can't be achieved without hard work. As well as delights of the culmination of a year's culture Spring also brings the cymbidium grower's most labour-intensive time; a couple of months optimum to get all the dividing and repotting done.

Day after day hours are spent standing at the potting bench. I stagger inside to prepare the evening meal, my back feeling broken in ten places! I mutter to myself (again), "No more new plants. Those that arrived from Joe Blogg's Nursery yesterday are *definitely* the last!"

However, all things must end: as November arrives the end of repotting's near.



## NEW LABORATORY FOR WONDABAH



The light room is the result of extensive research by Jan and Robert Giles.

Wondabah Orchids of Carlingford, NSW, has recently completed a new laboratory which will have long-term beneficial effects for the company and its customers.

Jan Giles of Wondabah says the new laboratory has a more than adequate capacity. She said, "We hope that when it is completely full it will hold somewhere in the vicinity of 2500 flasks.

"Already, although the laboratory has only just been opened, we have nearly 800 flasks," Jan said.

Wondabah has been in business for around 36 years, the past 26 as a registered company. Asked why Wondabah had only decided to establish its own laboratory now, Jan Giles said, "Many years ago, before the advent of meristemming, we did all our own flasking work — under what could only be termed as very 'primitive' conditions.

"As the business began escalating and mericlone was introduced, the demand on seedlings outstripped our humble facili-

ties. It became necessary to send all our work out to a laboratory", Jan added.

"However, in recent times, perhaps because of our own growth and other factors we found that our work was not coming back from the laboratory when we needed it. And, with our son Christopher joining the company, we decided the time was right to build our own laboratory, with Christopher taking charge of all the flasking," Jan said.

Young Christopher Giles joined the family business at the beginning of the year and, despite being the third generation of the Giles family in the business, began literally from the ground up, assisting in the design, development and construction of the laboratory.

While Christopher had worked in the nursery part-time for several years, the development of the laboratory was something new, even for his parents — Robert and Jan Giles.

The Wondabah laboratory will be, pri-

marily, for the company's own flasking. Jan said, "The lab will be 70 per cent for our own purposes. We may do a little flasking for some of our agents, but we will not be taking on any outside flasking work.

"We have seen so many problems which have come about from growing too quickly, so we aim to master our own work and for the lab to pay for itself by the production of our own seedlings."

Before commencing the project, Jan and Robert Giles travelled extensively overseas to study large commercial laboratories and to learn how to control contamination, a problem which has plagued some laboratories. The results of their study is a carefully developed unit with completely separated areas for preparation and the light room.

Jan said, "While many nurseries combine their preparation and light rooms, we decided to separate them. We built a large preparation room, completely sealed and insulated. This room leads into the light room which is designed to be totally insulated and contamination free.

"The light room has complete insulation around it. We installed dexion framing to hold the flasks. The baskets which contain

the flasks are plastic dipped and even the ballasts have been taken out of the lights to enable us to control the heat," Jan said.

Air conditioning, floor heating and ceiling circulating fan are used to control temperatures to exacting requirements. The fans are used to circulate the air evenly throughout.

Prior to installation of the fans, the Giles noticed that one side of the light room had a fractionally higher temperature than the other.

Each of the fluorescent light fittings has a timer attached. This monitors the usage of each light and enables the replacement of each fitting before it loses its peak efficiency.

The lights have a peak life span of 5000 hours and after that usage, begin to lose efficiency — up to 20 per cent in some cases.

Jan and Robert Giles hope to have the first of the seedlings from the new laboratory ready for their customers by Autumn, 1988. Jan said, "Because we can now control their development completely, we hope to have some first class seedlings ready for Australia's Bicentenary year."

Christopher Giles at work in the laboratory. Christopher is the third generation of the Giles family to be involved in the nursery.





## UPDATE ON 12TH WORLD ORCHID CONFERENCE

At last firm prices are available for those wishing to attend the 12th World Orchid Conference. The exchange rate will vary slightly from day to day, but figures now available are close to what you can expect to pay.

An attractive tour is one offered by Margaret Price. Margaret is the daughter of a Queensland orchid grower. She lives in Tokyo and knows Japanese orchid growers well. Not only is Margaret expert in the Japanese language, she also writes for Japanese papers. Thus those participating in her tour will have a guide who is knowledgeable on both Japan and orchids.

In Australian dollars the current prices for the Margaret Price tour of 17 days are:

Ex Sydney	\$3873.00
Ex Melbourne	3919.00
Ex Brisbane	3785.00
Ex Adelaide	4007.00
Ex Hobart	4120.00
Ex Cairns	4132.00

A 24-day trip which includes Taipei and Hong Kong is available at \$4850.00 and a Circle Pacific tour, which includes Asia, USA, Hawaii and New Zealand is available at \$4950 from most Australian cities.

For those who wish only to attend the conference a special 17-day economy tour is available at \$1995.00.

Not all meals are included in the above prices and a detailed brochure is available from the tour agent on request. The address is: Horizon Travel, Franklin Square, Railway Street, Mudgeeraba, Queensland.

Meals in hotels vary from 800 yen for a simple fried rice dish to 1500 yen for meat and vegetables, and 10,000 yen or more at some speciality restaurants. Restaurants near railway stations are usually cheaper.

The budget conscious should bring tea bags or coffee with them and purchase a 100 volt electric jug on arrival for boiling water. It is a good idea to also bring some canned provisions. You can save a lot in this way.

Optional tours are available on the lecture days. For instance, a two-day tour to

Oshima Island to see the Camelia Festival is available at Y58,000 per person, and a day tour to Kamakura for Y9000.

In estimating costs in Australian dollars allow eleven dollars for each Y1000.

The tour organised by OSNSW is also by Qantas. It includes side trips to Hong Kong and China and lasts 28 days. For details and price contact Mr Bill Smoothey, 15 Merlin Street, Roseville, NSW.

The registration fee is \$US100 if paid by 31st December and \$US120 thereafter. This covers the opening ceremony and opening party.

A Japan Night is scheduled at a cost of Y10,000 per person. The banquet is Y15,000 per person.

Independent travellers requiring to book accommodation and tours and to pay for registration should apply to:

12th World Orchid Conference,  
The Travel Office,  
c/o Japan Travel Bureau Inc.,  
1-13-1, Nichonbashi, Chico-Ku,  
Tokyo 103, Japan  
Telex T24418

## GENERAL INFORMATION

Details for exhibitors are available on request. The show schedule for flowering plants and cut flowers has 258 classes. There are also classes for flower arrangements and orchid art.

Commercial exhibits may apply for sales booths. The official languages are Japanese and English, with simultaneous translation.

### Conference Dates:

Proceedings — March 18 (Thursday) to 21 (Saturday) 1987

Show — March 18 to 25 with judging on March 17.

The reception and registration desk will be open from Saturday, March 14. The show will be open to the public March 19-25 inclusive.

**Locations:**

Proceedings — The Century Hyatt, Tokyo.

Show — Odakyu Mukogaoka Recreational Park.

**Opening Ceremony:**

Wednesday, March 18, 10-12 a.m.

**Lectures:**

These will be on three themes, namely:  
Science and Conservation  
Orchid Flora and Orchid Groups  
Orchid Industry and Other Topics

The latter will include Ikebana and Flower Arrangement, Miniature and Bonsai Orchids, Orchid Stamps, Books, and Photography.

# TO THE NEWER GROWERS:

by Bob Hodgins

There must be many newer growers who are somewhat confused about the amount of conflicting information on the growing of orchids.

It is for this reason that from time to time some attempt is made to reassure them that what may appear complicated is really more simple than it may seem.

Cymbidiums, for instance, are tolerant of many conditions and it is for this reason you may hear of numerous difference techniques for growing them. There are no secrets, although it may appear that way: one successful grower may have adopted a procedure that differs greatly from another. I believe you should adopt the growing method of one grower and stick to it. Don't imagine that he or she may think you are too inquisitive if you are persistent with questions; it really is the only way to learn and most will enjoy helping. But before you make a sincere approach for help be sure in your own mind that this is the grower you are prepared to listen to for the period of your initiation. If for some reason you are unable to make the approach suggested then please ask a member of your Committee for an introduction; apart from your decision to grow orchids, it could be the next best thing you have done.

**The don'ts**

Although young plants are the cheapest way to start, never accept plants that are less than 6" in height, and only then if you

have reasonable accommodation for them. Small plants must be kept growing vigorously during October, November and December and should make up their first small bulb by the end of the growing season. Should they receive any set back during this time they will stop growing and it is difficult to get them under way again, and you have lost one full season — not good considering they are going to take three years at least before you can see the first flower.

Baby plants in flasks would seem an ideal way to start an instant collection, but there are many pitfalls for the uninitiated. You must have ideal conditions and understand the requirements to handle these babies; to lose the lot at first attempt would not be unusual, so forget the flasks — at least for a year or so until such time as you feel competent enough to handle them. Even then seek advice as to what you should buy. There is so much of this material on the market, a lot with little or no potential whatsoever, and it will take you years of loving care to realise that perhaps your choice wasn't so good.

As a new grower you must be a constant observer; some of the best growers are most capable speakers while others dislike it. On the other hand some may have a lot to say, but that's where it ends.

Remember, an eyeful is better than an earful!



# COOL GROWING ODONTOGLOSSUMS AND ALLIED GENERA

Ilisa Hartmann

Odontoglossums are high altitude, cool growing plants but they can be grown successfully on the coast at sea level.

I acquired my first plant, *Vuystekeara Cambria* 'Plush', some years ago. It was a happy choice, as it grew robustly and flowered regularly in company with my cattleya collection. This was the start of my interest in the genera and I acquired more plants throughout the years. Odontoglossums, miltonias and the like are now the mainstay of my collection.

My glasshouse is 5m x 2.6m with a full-length opening ridge and sliding glass in the side walls. This type of glasshouse can easily be converted into a shade house during the warmer months, when the whole glasshouse is completely enclosed with 80% shade cloth. The shade cloth is fitted to a pipe frame and extends to ground level; the doorway is fitted with two full length zippers (available from canvas shops) for easy access. The glasshouse faces north, with the door on the east side, to protect the plants from drying westerly winds. There are two tall growing eucalypts on the northern side which provide dappled shade during summer, from approximately 11 am till 3 p.m.

The benching is of galvanised weldmesh to allow free circulation.

The floor was originally covered with pine bark which broke down and grew fungus over a period of years. This has now been removed, the floor sterilised with several drenchings of liquid chlorine, and covered with blue metal. The chlorine won't hurt the plants if the ventilation is perfect.

**Heating** is done with a Camplex Fan Heater. The thermostat on this is set to 12°C minimum. A glasshouse of this size can be heated quite economically if it is insulated. I use bubble plastic for this purpose. The door is left open about 25mm, day and night, to provide fresh air.

**Cooling** is done when the temperature rises to 27°C. My set-up is quite primitive, but effective.

A fine misting nozzle is attached to the watering hose and placed between three bricks (two for height and one to hold the nozzle in place) close to the doorway. A National double oscillating fan is placed behind the nozzle. The fan speed is set at medium from 27°C to 32°C, high speed for 32° and above. The fan swirls the mist into every corner of the house. Only the foliage plants under the bench become wet — and they love it.

I do not mist the odontoglossums or miltonias as I found that this causes leaf burn and rot in the new growths.

**Compost.** I tried a variety of mixes through the years. The plants grew well, but only for 12-18 months. The mixes either settled and became dense or became acid, or both. The mixture I finally settled-on has proved itself ideal for my growing conditions.

**Basic Mix** — Community to 125mm pots:

Dolomite: 1 tablespoon.

Fine Bark: 4½l. This is soaked for several days, with chelated iron added. Change the water at least once. The bark is then sun dried and sterilised at 200°C for 30 minutes.

Fine Cork: 3 cups. This is treated the same way as the bark, but without chelated iron.

Charcoal: 3 cups. This is in random sizes up to 20mm. It is soaked for several days and only floating material is used. Check for acidity if possible.

German Peat Moss: 3 cups. This is measured dry and sterilised at 175°C for 20 minutes.

Coarse Perlite: 3 cups.

Fine shellgrit: 2 cups. This is soaked overnight then rinsed several times

through a sieve to flush out sand and the very fine particles.

I make up a large quantity of this mix and prefer to store it dry and airtight.

For pots 150mm and over in size I use either 50% fine bark and 50% coarse bark or add 4½ litres of styrofoam pellets (as used in bean bags) to the basic mixture.

**Repotting** is done only when the plant outgrows its pot. I am notorious for overpotting. I recently divided a plant which had become overcrowded in a 150mm pot. It had been in the pot and mixture for three years. The root system was healthy and very dense. The compost was in perfect condition.

I use squat black plastic pots and provide additional drainage holes for all pot sizes.

For pots 150mm and over I use irregular pieces of styrofoam (as used for packing) to build up a mound toward the centre. The plant is then placed on it lightly and the compost added. The mixture is used dry. It is very light and won't become soggy.

All plants are top-dressed with sphagnum moss. A 12mm layer of moss is pressed in around the rim of the pot; thin this out somewhat toward the centre. When the moss becomes dry it is time to water again.

**Fertilising.** All pots receive a light top-dressing of Hoof and Horn Meal in spring. I would prefer to use Bone Meal, but am unable to locate this product. Additional feeding is done by spraying the plants every two or three weeks — using Aquasol, Maxicrop, Nitrosol, Wuxal, Campbell's Blue and Yellow at one third strength, on a rotating basis.

**Fungicides.** Community pots are drenched with Previcur and the leaves are sprayed with Natriphene. Sonax C and Benlate are used on mature plants. Spraying is done very rarely, maybe two or three times a year. Light air movement, good bottom and roof ventilation combined with the prompt removal of dead or infected tissue is the best prevention of fungal and other diseases. A word of warning: I believe Sonax C has a high component of Captan, which has been withdrawn from sale. Care should be exercised with this, as with all sprays.

I have one recurring fungus problem — *Rhizoctonia solani*, also known as Rhizoctonia root rot. I don't believe my cultural practices are at fault, but suspect my problem originates from the surrounding gardens (my own included) where this fungus flourishes, especially in the lawns. I have had good results treating cattleyas, without any adverse effects, by drenching them with Terraclor. The same treatment applied to odontoglossums, however, left the plants in a very weak state; the fungus was killed and so were most of the roots.

For the last three years I have been growing 15-odontoglossums in the open, on a trial basis, with only shade cloth for protection — and they are flourishing. The only cultural difference is that additional drainage material is added to prevent them becoming waterlogged in cold weather. This means almost daily watering during hot dry spells.

I shall dispense with heating the glasshouse next winter as I am convinced that the odontoglossums don't need that additional heat. The miltonias like it somewhat warmer but I hope that keeping them fairly dry during the colder periods will see them survive without too much damage.

## VDC SHOW ATTRACTS

The Victorian Orchid Club staged their Annual Spring Show in September.

A very high standard of blooms was on display and it was very pleasing to note that a number of growers were exhibiting for the first time with displays that did their owners proud.

The champion Orchid of the Show together with the Champion Cymbidium went to Len and Marg Vines for their plant of *Cymbidium Narela* 'Jennifer Gail' while the Reserve Champion Cymbidium went to K & A Moss for *Cymbidium Arunta* 'Amber'. The Pre-eminent award which was the A.O.C. plaque went to Michael Derhem for his magnificent specimen of *Den. Delicatum*.



# QUEENSLAND SHOW

## REPORTS by F M Oelkens

The Queensland Orchid Society held its annual spring show in the Brisbane City Hall from 3rd to 5th of October, 1986. The show was part of the Warana Celebrations and Q.O.S. was awarded the Alan J Campbell Perpetual Trophy for the best community contribution to the Warana Celebrations. This prestigious trophy was presented at Parliament House on 20th October.

Congratulations to President Barry Paget and his hard-working band of helpers on this achievement.

The mass displays by 11 Affiliated Societies and several nurseries created a spring look in the City Hall which can only come from an orchid show. The Affiliated Societies displays afforded much friendly rivalry but, as in all competitions, there can only be one winner. This time the honours went to the Orchid Species Society in the large display section with Brisbane Orchid Society second and Pine Rivers Orchid Society third. In the small display section Craigslea Orchid Club came first followed by North Albert and District Orchid Society and North Brisbane Orchid Society.

The various classes were displayed on tables throughout the hall, much to the satisfaction and joy of those enthusiasts who prefer to examine the orchids in fine detail.

The Grand Champion orchid of the show was a very large and most desirable species from Mount Phu Luang, Thailand: *Paphiopedilum sukhakulii* 'Ann' HCC/QOS, AOC, exhibited by Phil and Les Cotton. This is the largest *Paph. sukhakulii* I have seen and I congratulate the Cottons on their achievement. A fine flowering of *Phalaenopsis* Hope Island 'Ice', exhibited by G Marshall took the reserve champion ribbon. This *phalaenopsis* bore a strong spike carrying eight well-shaped white blooms.

A massive and well-presented *Sarcochilus hartmannii* won for R Dallman a trio of

prizes: Champion Specimen, Champion Native Specimen and the Most Pre-eminent Entry. This plant carried many upright spikes of blooms typical of the species. The same grower, R Dallman, also took the prize for Champion *Cymbidium* with a fine flowering of *Cymbidium* Burgundian 'Bexley'.

Many fine cattleyas were tabled but after much deliberation, a fine white cattleya, *Blc.* Ranger Six 'A-OK', tabled by R Styman was awarded Champion Cattleya. The petals and sepals were broad and rounded and the labellum almost perfect. I noticed many other good cattleyas including *Blc.* Malworth 'Orchidglade', *C.* Mary Ann Barnett 'Luxemburgh Waltz', *Lc.* Culminant 'La Tuilerie', *Slc.* Hazel Boyd 'C9M-91', *Bc.* Junebetts and *Lc.* Irene Holquin 'Brown Eyes'.

Stu Heyden tabled the Champion *Dendrobium*, *Den.* C.K.A1 'Oka', a classy intermediate hardcane type which carried dozens of 'salmonish' blooms on two strong arching spikes. This was a credit to the grower. Another showy *dendrobium* on the table was *Dendrobium undulatum* var. *broomfieldii* x *schulerii*. The *ceratobium* type blooms showed the strong influence of *broomfieldii*, but with less twisting.

The North Moreton Queensland Orchid Council held its Charity Show at the Mount Cootha Botanic Gardens. Where but in Brisbane would you see exhibited, side by side, *paphiopedilums*, *cattleyas*, *phalaenopsis*, *cymbidiums*, *dendrobiums* — both hard and soft cane, natives, vandas and intergeneric hybrids. This must say something for the mild Brisbane winters and their effect on the flowering of so many genera.

The Grand Champion Orchid was tabled by Jack and Lil Heath. It was *Bc.* Pastoral 'Innocence', a 150mm white, well-balanced bloom with broad overlapping segments and a large round lip. Jack and Lil exhibit

at several shows; their fine, well-grown orchids are admired wherever tabled.

Bri-Elen Nursery tabled the Reserve Champion Orchid, *Cymbidium Tetsegesu* x *Whyaviolacea*, carrying fifteen well-shaped burgundy blooms on an erect spike.

A thriving plant of *Angraecum eburneum*, carrying six spikes with an average of a dozen blooms per spike, won Champion Species and Champion Specimen Orchid for Hugh and Jess McClintock.

Sunshine Orchid Nursery won the Champion Australian Native ribbon with *Dendrobium semifuscum*, a plant with seven arching spikes carrying an average of eighteen blooms. the Champion orchid in the Novice Section was *Paphiopedilum*

*venustum*, with particularly broad petals, owned by Wal Bradburne.

An early flowering specimen of *Dendrobium* Hilda Poxon took the eye of many patrons. This non-spotted variety carried ten inflorescences of 100mm blooms. Other fine dendrobiums on display were *Den. Johulatum* with two spikes of clear yellow, open blooms and *Den. Brown Derby* with two spikes each carrying twenty orange-brown blooms.

The best display by an Affiliated Society was staged by The Redcliffe Orchid Society with a display excelling in quality, variety and artistic arrangement. Two 'eye catchers' in this display were a massive *Blc. Mount Hood 'Mary'* and a *Blc. Greenwich*.

## GEMS OF THE ORCHID WORLD

by Gerald McCraith

### *Dendrobium Cuthbertsonii* F. Muell

This species was collected by Cuthbertson in the Central Province of Papua New Guinea in 1887, and was subsequently described and published by Baron Ferdinand von Mueller in 1888 in Melbourne.

During the next 20 years, this species was given six different names by botanists and collectors. *Dendrobium sophronites* Schltr. was one of these synonyms given by Schlechter in 1912, and a name by which this species is so well known.

This is an alpine species which is rarely found below 2,000m and up to the higher altitude of 3,000m. It is closely allied to the section *Oxy-glossum*. It is described as growing in abundance over a wide range on ridges and on the edges of forests where the plant life is subject to strong breezes and rain. The habitats are often shrouded with cloud, mist and rain for considerable periods. The plants grow in colonies, often on moss covered rocks.

Unfortunately, although the plant is wide spread in the highlands of New Guinea and into the Solomons, in its native habitat, plants are very difficult to obtain. I know of a number of growers in Queensland who have had sad stories to tell in their attempt

to grow this species, but when we make a brief survey of its habitat, we find that the weather pattern is often unpredictable and certainly sharp contrasts between day and night. The nights can be unbelievably freezing cold at certain times.

The writer has had his plants for a number of years, and during this time, many potting mediums have been tried with varying results. The most successful has been sphagnum moss which is changed every second year, with very little fertilizing. In Melbourne, a glasshouse environment is necessary with a minimum winter temperature of 10°C with reasonable good light, fairly heavy shade in summer, and make sure that the plants are not allowed to dry at any time.

Of all the gems among the orchids of New Guinea, *Dendrobium cuthbertsonii* must be classified for the varying bright colours of the flowers which may last in good condition for 16 to 20 weeks. The actual plant is miniature where the flowers are much larger than the quaint plant with warty leaves that may be green above and purple on the underside.

Truly a gem of the orchid kingdom . . .



# Society News



*Cym. Narella* 'Jennifer Gail', which won Champion Specimen, boasts 17 flower spikes with more than 400 blooms.

## Eastern District Orchid Society Spring Show

The new venue of Wondall Heights School proved to be just what the doctor ordered. With room to spare, Show Captain Graham Gash marshalled his troops to arrange 366 plants into a dazzling display of regimented colour.

Champion specimen *Cyn Narella* "Jennifer Gail" owned by R Brandt caught everyone's eye, boasting 17 flower spikes holding over 400 blooms (who said Brisbanites can't grow *Cymbidiums*), this plant was also awarded a CCC by the Q.O.S. judging panel.

D Watson won Champion of the show with a magnificent white *Phalaenopsis*, "Con Quete", displaying 10 flowers to perfection on a delicately arched raceme.

Queensland Orchid Society's bronze medallion for the most pre-eminent entry was won by a very striking intergeneric, *Onc. Tigrinum* x *Odm Moselle*. These flowers stood out like a beacon with brown

and yellow striping and a prominent yellow lip. The lucky owner was Brian Healy.

The natives section was a show on its own once more, with some glorious previews of things to come in the native hybrids.

A good time was had by all and everyone waits in anticipation for our next show in Autumn 1987.

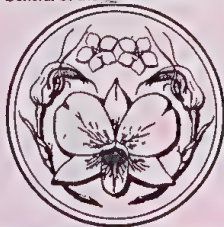
*Ken Unsworth*

## Charters Towers moves far and fast

Charters Towers OS members carted an array of plants all the way to Townsville and demonstrated that inland growers can compete with the best. The assembled plants so impressed the judges that they awarded the Towers "Best Society Display".

At this same TOS Show, Ken Norman won Champion *Phalaenanth* *Dendrobium* with his plant from a crossing of *D. Dreen* and *D. Hepa*.

The National Organisation representing  
THE QUEENSLAND ORCHID SOCIETY  
THE ORCHID SOCIETY OF N.S.W. LTD.  
THE VICTORIAN ORCHID CLUB  
THE ORCHID CLUB OF SOUTH  
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THE TASMANIAN ORCHID SOCIETY



President: Mr D. F. Gallagher  
Vice-President: Mr J. Woodward  
Vice-President: Mr B. Paget  
Secretary: Mr J. Harris  
Treasurer: Mrs M. Hewitt  
Registrar General: Mr L. Peaty  
Programme Librarian: Mr G. Haar

## President's Report

This being my first year in office as President of the Australian Orchid Council, I would like to thank all members of the executive and council officers for their help and assistance.

Meetings of executive officers and State registrars were held during the year and as a result of these meetings, I was very pleased to see a much closer co-operation beginning to develop between all States.

An annual meeting is not enough, and I am certain that meetings on a regular basis during the year are essential for the Council to progress and meet the challenges of the future as well as developing closer co-operation between States.

Several new initiatives have been adopted by the Council this year and probably the most important one is the new procedure to be adopted for processing and ratification of National Awards commencing for the 1986-87 Award year. Another new procedure this year is the automatic granting of National Awards to all plants awarded at this year's 10th Australian Orchid Council Conference. The Council has also struck a special Conference medal and this will be the first time that these medals have been presented at an Australian Orchid Council Conference.

Another new innovation this year is the presentation of Australian Orchid Review trophies to the AOC-Orchid of the Year and AOC-Award of Distinction of the Year. This is the inaugural year of their presentation which will be made during the 10th Australian Orchid Council Conference in Adelaide. It is pleasing to have the publishers of The Australian Orchid Review financially assisting the Council as well as continuing with publication of the Australian Orchid Awards book, and publication of the new book, 50 Years: The Australian Orchid.

In addition, the Council is developing a set of culture books with articles by leading Australian growers and it is hoped that publication will commence shortly.

A special mention should also be made of the booklet of Australian Orchid Council Awards 1964-84, prepared by Mr Chas Hill (immediate Past President) who put a lot of time and effort into its compilation.

On the International scene, it was great to have the Third Asia and Pacific Orchid Conference allocated to the Australian Orchid Council to host in 1989. The next World Conference is being held in Tokyo in March, 1987, and Australian orchid growers should be well represented with tour groups being organised in several States. It is hoped sufficient interest will prevail amongst all States so that the Australian Orchid Council can provide a display for Tokyo.

The Orchid Council of New Zealand have also indicated their desire for a closer working relationship with the Australian Orchid Council and every effort will be made to develop this area in the near future.

In closing, I would like to comment on the strong improvement in the Council's financial position during the year and the excellent effort put in by John Harris (Secretary) and Margaret Hewitt (Treasurer) in their first year of office.

I would also like to congratulate Julian Coker on his appointment to the new position of Deputy Registrar of Judges.

*Don Gallagher*  
President — Australian Orchid Council



# The 10th Australian Orchid Conference Show

The organisation and running of the show was a triumph for the Orchid Club of South Australia.

The only difficulty lay in the time required to complete the judging due to the huge number of classes and the great number of entries in each.

Entries covered two large floors, each about a quarter acre, in the one building at the Adelaide Showground. Thus judges had to be continually going up and down steps to appraise every possible plant in their section.

A great number of panels took place, but panels seldom overlapped and place judging was very thorough.

The Grand Champion was an impressive cymbidium which clearly dominated the champions in other genera. *Cymbidium* Lake Macquarie 'Winsome' was an Alvin Bryant seedling raised and named by Tom and Edythe Price of Swansea, New South Wales. It had white flowers of almost perfect shape, with 14 on an upright stem.

Reserve Champion was a fine *Phalaenopsis* Ryne Zimmerman brought from California by Zuma Canyon Orchids. The white flowers with contrasting red lip were well displayed on an arching spike.

Other winners in the Champion Classes were:

- **Australian Native Epiphyte.** *Dendrobium speciosum* 'St Albans'; owned by Mr Adlers. E. Badman.
- **Australian Native Terrestrial.** *Diuris, longifolia* grown by Mr & Mrs L J Nesbitt.
- **Cattleya and Allied Genera.** *Slc.* Hazel Boyd '2171', Mr R Royal.
- **Intermediate Cymbidium.** *Cymbidium* Alison Shaw, 'Valentine', from Mr Beznak Orchids.
- **Miniature Cymbidiums.** *Cymbidium* Dag 'Dorothy', Mr & Mrs E D Pollitt.
- **Dendrobium** (not Australian native) *Dendrobium* Sweetheart 'King', a fine

white softcane from Banana Coast Orchids.

- **Ondontoglossum Alliance.** *Oncidium* Varimyre 'Adelaide' Geyserland Orchids.
- **Paphiophedilum.** *Paphiopedilum* Picture Rock 'Sandstone' Geyserland Orchids.
- **Vanda Alliance.** *Vanda* Gordon Dillon, exhibited by Kevin McFarlane.
- **Champion Other Genera.** *Lycaste* Koolena, 'Ballerina', New Zealand Orchid Society.

## FACETS OF ORCHIDS AUSTRALIA '86

The Tenth Australian Orchid Conference, hosted by the Orchid Club of South Australia, had a truly international atmosphere.

All the lecturers were well-known for their contributions to orchidology.

Mrs Joyce Stewart of Kew is well-known for her writings on South African orchids. She is now involved in conservation work at Kew. This famous botanical centre has made massive contributions to plant knowledge, and also the culture of economic plants. Joyce with her descriptions and slides made the history and background details of Kew come alive.

Kew Herbarium not only has type sheets of most orchid species but over 10,000 orchid flowers preserved in spirits. Ten growing houses are reserved for orchids and each is maintained as a separate climate. Thus a wide range of genera and species is grown. Flowering plants are transferred to a public viewing orchid display. Some orchids in flower are always available, consequently a year-round display is always on show.

Professor Rapee Sagarik is known for his founding of the orchid industry in Thailand. His research on culture, propagation, and international marketing has resulted in an industry currently worth a hundred million dollars (US) per year.

Right  
Champion Cymbidium and  
Grand Champion: *Cym.*  
Lake Macquarie  
'Winsome'. This plant was  
chosen Best White Standard  
Cymbidium ... went on to  
become Champion  
Standard Cymbidium ...  
and finally was judged  
Grand Champion of the  
Show. T. & E. Price  
(NSW).



Below  
Champion Display: G. &  
M. Hewitt and Parade  
Orchids.







Champion Vanda Alliance:  
*Vanda Gordon Dillon*. K. McFarlane (Qld).

Marketing is mainly through a co-operative established by Professor Rapee Sagarik, although some large growers are now exporting direct.

Growers depend on very few hybrids, but now some of the old favourites are being replaced by improved types. This is not only to have strains with better yield but also to adapt to changing public taste.

Further light on growing and marketing was shed by Frieda Duckett who, with her husband, runs a huge cymbidium flower complex in Africa. The nursery is associated with a Dutch grower, thus ensuring almost a year-round entry to the European flower market.

Seedlings are raised from only a few of the very best clones. Superior clones are mericloned for mass flower production. Rejected seedlings, are dumped. The nursery aims to produce 200 to 300 flowers per square metre.

Alex Stoize of Holland, a mass grower of

cymbidiums for the flower market, had much the same views on ruthless discarding as Mrs Duckett. His growing houses are highly automated and controlled by computer. He has also used a computer for his marketing and sales records over a period of several years. This enables him to assess the current market and also act as a guide to future trends.

Orchid flower growing and marketing has become a highly organised and professional business.

The Japanese growers, Mr Harry Nagata on *Cattleya Growing in Japan*, and Mr Tukehiko Mukoyama on *Cymbidiums in Japan*, had much the same message.

## ORCHID PEOPLE AT ORCHIDS AUSTRALIA '86

Ray Bilton is head of prestigious McBeans and Charlesworths nurseries establishments with a century of English tradition and expertise. He is also a member of the RHS

Orchid Committee and Chairman of Directors of *The Orchid Review*. With a background like that his influence at the conference was considerable.

McBeans are at a new high in hybridising cymbidiums. There is a resurgence of British influence in the genus. The Charlesworth line of odontoglossum intergeneries, which in the closing years of the old management had tended to run down, is now back to producing outstanding stock. So Ray had plenty to tell about events in England.

Like judges in other world panels he is very conscious of the need for more study of those areas in which rapid hybridising developments are now taking place.

Les Nesbitt is a quiet unassuming chap whose influence on the growing of terrestrial native orchids as a hobby has been profound.

He operates the only specialist Australian native terrestrial orchid nursery in the world. Consequently he has made a detailed study of cultural methods for the benefit of growers everywhere. Further, his hybridis-

ing is resulting in plants which are more floriferous and more easily grown.

A lecture by Les on the cultivation of native terrestrials was a feature of Orchids Australia '86. Many registrants visited the nursery to see for themselves how native terrestrials can be grown.

As one would expect Les won most of the prizes for native terrestrials at the Conference Show.

Zen-Ichiro Oda was one of the large group of growers from Japan. An orchid judge, he made a surprising request to be placed on an Australian native orchid panel.

This request shows his wide interest in orchids. He has a nursery and is well known in Japan as a writer on orchids with eight books to his credit. He also edits an orchid journal.

Zen-Ichiro Oda was quick to ask questions, and it is certain he will go back to Japan with some interesting notes on our natives. Because he is a writer, Japanese growers will learn something of our natives.

## SURPRISE FOR ERIC!

Eric Badman is a judge of the Orchid Club of South Australia. During the judging he learned that his *Dendrobium speciosum* had just missed out on a prize for Best Specimen Native. A pity, for it had flowers of a particular fine form.

Eric was quite philosophical about it, accepting that it lacked a spike or two. Perhaps next year . . .

Later he was surprised to see it benched as the Champion Native Epiphyte. Not quite a specimen plant but certainly a worthy champion.

Eric and his wife Coral were hosts at their home to several people from other States.

## WONDERFUL WORLD OF WISLEY

Mark Wheatley is a nice unassuming guy, who to some may seem too youthful to be highly experienced with orchids.

Not so. Mark has served his apprenticeship in the Royal Horticultural Garden at Wisley in Surrey, England. He finished in charge of the orchid houses, and became

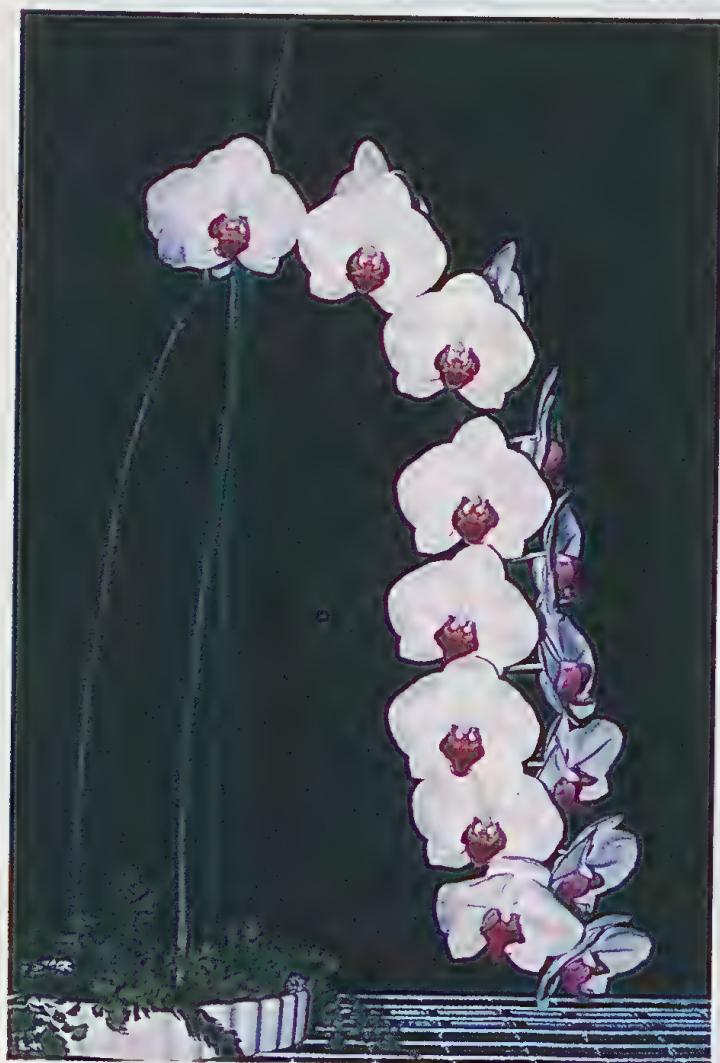


Champion Dendrobium (not Australian native): *Dendrobium Sweetheart 'King'*.  
Banana Coast Orchids (NSW).





Above  
Champion Australian  
Native Epiphyte: '*St.  
Albans*'. Mr & Mrs  
Badman (S.A.)



Left  
Champion Phalaenopsis  
and Reserve Champion:  
*Phalaenopsis* Ryne  
Zimmrman. Zuma Canyon  
Orchids (USA).

the second person to receive the coveted Eric Young Orchid Scholarship.

He has decided to settle in Australia and has bought 40 hectares near Perth. The next two years will be spent in developing an orchid nursery.

Mark attended the Adelaide Conference soon after arriving in Australia. His interest covers all horticultural genera and he is now awaiting the arrival of his stud plants from England. "In two years", he says, "I'll be open for business".

Good luck, Mark.

## MASTER GROWER OF PHALLIES

John Miller has spent half a life-time searching for gold — the yellow gold in phalaenopsis flowers. He has a splendid background for the job. John was born in the USA but was brought up in Melbourne. He enlisted with the Americans when they arrived in 1942 and spent the war in counter-intelligence.

After the war John worked with the US administration in the Philippines and he and his wife fell in love with that country's vandaceous orchids.

In the Philippines he became a founder member of the Philippines Orchid Society.

John and his wife live at Anaheim, California, and are more interested in what goes on in the growing houses than the delights of Disneyland.

John has been working to achieve some good colours with his yellow phallies but their tendency to fade has still to be eliminated and floriferousness improved.

The day will come when yellows are as bountiful as the whites, and John Miller's work will have proven a valuable contribution.

## KEEPER OF THE CASH

Evelyn Cuming, was the Finance Controller at the Orchid Conference. Her contribution to Orchids Australia '86 was substantial and a big factor in the smooth running of the Confernece.

Evelyn carried out her task during a time when she and her husband were faced with serious stock losses in their nursery due to severe frosts.

## LONG DISTANCE EFFORT

To bring enough flowers for a full stand display a distance of 4000 kilometres would be a major effort for one man. Yet Kevin McFarlane of Cairns managed it. Well, no doubt with some help from daughter Karen.

Many plants were Kevin's own breeding. The display gained many prizes, including Champion Vanda.

## GONE ON GOATS!

Don and Jill Gallagher live on a lush eight hectares in the Adelaide Hills. To stop the weeds over-running the orchids they have made themselves slaves to innumerable goats. Rather, Jill has, since Don is too tied up in orchid business as President of the AOC and Registrar of Judging for OCSA.

Goat wool is in great demand and Jill reports her charges can be shorn twice a year. But just to confuse matters, lambing — rather kidding — was due around Conference time. The nannies wouldn't agree to postponement.

## GOOD ON YER SYD

President's can be a sorry lot when anything goes wrong as they are ideally placed to be "whipping boys". However, Orchids Australia '86 progressed without even a mild tremor of disarray, which indicates the thorough work of OCSA President Syd Monkhouse.

Syd is an institutional figure in Australian orchids. He has previously served two three year terms as President OCSA, one as President AOC, and one as Registrar AOC. For a time he was secretary OCSA. All this was in his spare time while building up a major Australian orchid nursery.

## JUDGING DISCUSSION IMPORTANT

"Never stop studying orchids. Work at it, work, work, work", was John Miller's message for judges during the session on *Orchid Judging World-Wide*. "Judges", he continued, "had to develop a philosophy and really study all genera".

John is a Californian in the forefront of phalaenopsis hybridising. Judges there undergo a period of training extending over seven years before achieving full sta-



tus. Many who start out don't make it. "Above all", John said, "judges must not be afraid to be innovators".

Geoff Browning covered Australian AOC judging and Andy Easton judging in New Zealand.

"The English system", explained Ray Bilton of McBeans, "is based on appreciation alone." The intention is to assess whether a hybrid is better than its parents, or whether a species is better than usual forms. For this purpose paintings of all awarded plants are made and judges may call for any of them when considering a plant for an award.

### AOC JUDGING SEMINAR

The Registrar General of AOC Judging and all five State Registrars assembled on the stage of the Mineral Foundation Building before an audience of all registrants interested in judging. Only the NSW Registrar was missing due to the date clashing with the OSNSW Spring Festival.

Discussion hinged around the grey areas of judging, particularly what might be done about miniature cattleyas, and the influence of new hybrids within the odontoglossum-ocidium alliance. These are matters all State judging panels are bound to be discussing in the coming year.



Best Pink Phalaenopsis: *Phalaenopsis Abendrot*. K. McFarlane (Qld).

Champion Cattleya & Allied Genera:  
*Slc. Hazel Boyd '2171'*. R. Royal (Qld).



## AUSSIE NIGHT AT STONYFELL WINERY

A Conference social night was full of fun and frolic, primed by fine food, wine, and fellowship.

Using the theme "Aussie Night", swaggy hats were available for everyone in a range of misfitting sizes, and with swinging corks to intimidate luckless flies. Effective too for no one saw a fly all night. A bush band played "Bound for Botany Bay", "Click Go The Shears" and haunting Irish ditties.

Square dancers romped between courses. Wine flowed. Between sips Barry Collins opined, "The Conference Show is terrific but short on native epiphytes, and where was New South Wales?"

Tom Henry reckoned he'd never seen a

show as good. A lady maintained, "If there were more people like orchid growers there'd be no wars."

Queensland OS member Ken Smart said, "I'm delighted by the good organisation and the way the Show was presented, and by the quality of the plants."

Overseas folk lapped up the atmosphere. Yvette Fisher of Los Angeles, USA, was enthusiastic about the Australian native orchids at the Conference show. She said, "the show was much the same as the ones back in the States."

Cora Brooke of Waitara, New Zealand, was adamant that, "No people could be as friendly as Adelaide folk."

John and Barbara Harris joined in the formal fun of the Aussie Night. John was Chairman of Orchids Australia '86.



Syd and Shirley Monkhouse, wearing the bush hats, complete with corks, issued to everyone. Syd is President of the Orchid Club of South Australia.



# AROUND & ABOUT



1986 was the inaugural year for presentation of trophies for Australian Orchid of the Year and Award of Distinction of the Year. Donated by Australian Orchid Review, these AOC awards were presented at Orchids Australia '86. Pictured with the trophies are (L to R) John Woodwood, winner of A.D. of the Year, Abe Porter, accepting for Wal Rhodes, winner of Orchid of the Year and Don Gallagher, President of the AOC.

## New horizons for Rod Nelson

Manly-Warringah members were stunned a few months ago when popular President Ron Nelson announced he would be standing down. A promising business opportunity at Kiama arose and he decided to take it up.

Rod said he regretted having to leave and very much appreciated the co-operation he had received from members and committee.

John Roberts expressed the disappointment of all members, and sustained applause indicated members' appreciation of the President's work and achievements for the society.

So the NSW south coast gains another good grower.

## WELL SAID!

Readers' contributions to Australian Orchid Review are always welcomed. Articles can be humorous ... sad ... angry ... or even happy!

Send your contributions, with illustrations, where available, to

THE EDITOR  
AUSTRALIAN ORCHID REVIEW  
14 McGill Street  
LEWISHAM, NSW 2049

Oh! By the way ... if you would like your illustrations returned after use, please enclose an addressed envelope with your submission.

# Society News

## Rockhampton Orchid Society . . . Orchids in Springtime . . .

The Rockhampton Orchid Society has just completed another outstandingly successful Spring Orchid Show — perhaps “Spectacular” would be a more appropriate replacement for “show”.

Greg and Claire Williams almost had a clean sweep of the major awards, taking out Grand Champion and Reserve Champion Orchid, and Best Specimen Orchid ribbons. Grand Champion Orchid was *Opsistylis* Suree. The plant sported two magnificent spikes of deep wine-red blooms from the main growth, and another from a secondary branch.

Reserve Champion Orchid was *Blc.* Ranger Six ‘A-OK’, with two pristine white flowers of excellent shape and size. Best Specimen Orchid went to *Lc.* Pixie ‘Canary’, a huge plant with numerous spikes of dainty yellow blooms.

The other major show award for Best Display (2m x 2m) went to “Oriental Fantasy” exhibited by Colin Hamilton, John and Sharon Frisch and Brian and Paulette Maxwell. Attractively tiered genera in a variety of clustered tones against a backdrop of simulated Japanese rice-paper screens made a most impressive scene. The display was highlighted by Colin’s *Den.* Utopia ‘Messenger’, Brian’s *Dialaelia* Snowflake, and John and Sharon’s brilliantly coloured *Anthurium* Schezerianums.

The combined effect of the massed displays of some 14 entries around the hall evoked many complimentary comments as members of the public came in their thousands over the three days of the show.

## A weed to grow

A visitor to Terry Poulton, President of Melbourne Eastern OS, saw a plant growing so well he thought it was a weed and almost pulled it out of the pot. It turned out that the active growth was due to the care-

ful culture of a *Disa*. It’s good to know so many growers are handling them well these days.

## Award to Susan Collier

Accolade “Cairns Businesswoman of the Year” was won by orchid grower Susan Collier who conducts Orchid Valley Nursery at Gordonvale, near Cairns. Mrs Collier has turned a hobby into a business in only a few years.

The award carries substantial prizes and means she will be considered for the title “Australian Businesswoman of the Year 1987”.

## Port Augusta Show “Orchids in the Outback”

Wagon wheels, swags, grinding wheels, a sheep’s skull, set among red sand and bark gave an authentic outback atmosphere to the Port Augusta Orchid Club Spring Show.

A spectacular array of standard, intermediate, and miniature cymbidiums, together with cattleyas, paphiopedilums, and Australian natives dominated the unusual background. The public loved it.

Chris and Jo Zimmerman were thrilled to take out Grand Champion with well flowered *Cymbidium* Narela ‘Jenifera Gail’. The plant carried two spikes of ten soft pink flowers of good shape.

Reserve Champion went to that fine yellow *Cattleya* Malworth ‘Orchidglade’, owned by Geoff and Josie Clark.

Provisional Reserve Champion was *Paphiopedilum* Corsair, registered, from a cross of *P.* Niobe and *P.* Nitins, by Sir George Holford in 1913. Mick and Sylvia Dennis were the happy owners.

Club members regarded the success of the show as a good omen for the success of the display planned for Orchids Australia ’86.



# MINIATURE OR COMPACT CATTLEYSAS?

Ross Maidment

Many orchid growers throughout the world live in densely populated and energy conscious areas such as parts of USA and Japan. Most orchid growers in these regions cannot afford the luxury of the large living areas we enjoy. For example, Rebecca Tyson Northern estimated that half of the orchid growers in the greater New York area have their plants in windows or under lights.

This situation sparked a rapid interest in the breeding and growing of a new category of cattleyas called 'Miniature Cattleyas'. There is no official definition of what constitutes a miniature cattleya. In one set of show judging rules, miniatures may be defined as plants no taller than 12cm (5"), including the inflorescence; in another it may be 15cm (6") excluding the inflorescence.

Following the initial success of these newly bred lines, hybridizers turned their

attention to fully exploring their potential. The result of their efforts was a further new category called 'Compact Cattleyas' — best typified in the grex *Slc. Hazel Boyd*, which has also come to set the standard in this section. Again there is no official definition of what constitutes a 'Compact Cattleya'. Plants in this category are generally defined as taller than 12cm (5") but less than 23cm (9") either including or excluding the inflorescence.

Many people in Australia have been confused about the development of compact cattleyas. I have often heard and seen *Slc. Hazel Boyd* referred to as a miniature cattleya here, where, it and similar hybrids are clearly compact cattleyas. Most compacts have been bred from miniature parents e.g. the parentage of *Slc. Hazel Boyd* includes *Soph. coccinea* and *Sl. Psyche*.

Compact cattleyas are enjoying widespread popularity because of the many

*Otr. Hawaiian Queen (Blc. Waikiki Gold x Bro. sanguinea)*





*Slc. Hazel Boyd 'Orinda' (Slc. California Apricot x Slc. Jewel Box)*

All photographs were taken by R. J. Maidment.

advantages they offer to growers. Hybridizing trends favour growth habits of upright bulbs with very little space between bulbs. Plants which produce multiple leads per bulb are also favoured. As a result a plant rapidly reaches flowering size in a 100m (4") pot and has the bonus of having many flowering leads. Thus in the space occupied by a single standard exhibition cattleya plant of flowering size, there can be grown several flowering size compact cattleyas.

Many of the compacts, though flowering in particular seasons, also bloom at other times during the year. This is well demonstrated with *Slc. Hazel Boyd* clones and *Slc. Dixie Jewels 'Suzuki'* where 2-3 flowerings per year are not uncommon. In fact, many compacts flower as each new growth matures, irrespective of season. Here the number of flowerings growers achieve is limited only by the number of new growths their culture produces. Large exhibition cattleyas in the majority of cases are seasonal flowerers (Autumn or Spring) and

only bloom once per year. Compact cattleyas not only have the advantage of producing more flowers in a year but also at times when other cattleya flowers are scarce.

Hybridizers have capitalised on the best features of both miniature and exhibition cattleyas. Shape, in the new generation of compact cattleyas is excellent and equal to the best of the exhibition cattleya clones. Examples of the high standard now reached include — *Sc. Rosei Pixie 'Pinafore'*, *Ctna. Rosy Jewel*, *Lctna. Roy Fields*. Individual size of flowers is, of course, smaller than exhibition types. Though, in comparison to the size of plant and frequency of flowering the rewards are greater. A much wider range and combination of colours is available in compact cattleyas than standard exhibition types. Even more appealing is the brighter and more vivid colours in many of the newer clones. Individual flowerers are also often much longer lasting.

For all these reasons compact cattleyas will continue to enjoy widespread popular-



ity. Hybridizers are continuing to improve and expand the range of hybrids and mericlones available in this category. Many of the features which have ensured the success of this line of breeding should also be considered in the hybridization of exhibition cattleyas. Following are some of the parents to look at for producing future generations of compact cattleyas:

Species — *Soph. coccinea*; *C. luteola*; *L. briereri*; *L. pumila* and *Bro. sanguinea*.

Hybrids — *Slc. Hazel Boyd*; *Slc. Tangerine Jewel*; *Slc. Madge Fordyce*; *Ctna. Keith Roth Lc. Mini Purple*.

A wide 'gene pool' from which to work and new advances such as tetraploid *Soph. coccinea* clones, make the future for compact cattleyas very bright indeed.



Sc. Beaufort 'Elmwood'  
(*Soph. coccinea* x *C. luteola*)

## *Paphiopedilum adductum* Asher — A species in conflict

Nomenclatural inconsistencies have existed ever since plant taxonomy began, with the subtribe Cyripedilinae being no exception.

Due to early professional rivalry amongst noted nurseries and botanists of the time, many species were unfortunately misrepresented. This was due to the haste with which new discoveries were described. Plant localities were falsified to mislead rival nurseries, as was the case with *Paphiopedilum rothschildianum*, and perhaps *Paphiopedilum adductum*. These institutions were regarded as the authorities of the time, and their information was published in the noted garden journals. If incorrect or falsified information was forwarded, this would be printed and remains to this day.

*Paphiopedilum ellottianum* (O'Brien) Fowlie and *Paphiopedilum adductum* Asher are 'two' such species which have been enshrouded in controversy ever since the introduction of *Paphiopedilum adductum* into cultivation in 1979, from the Bukidon Province, Mindanao, Philippines. Independent botanical authorities from several continents have attempted to



*Paph. ellottianum* and *Paph. adductum*  
Asher have been enshrouded in controversy  
since 1979.

solve this controversy, only to settle on different names, some believing the newcomer to be the 'lost' *Paphiopedilum ellottianum* and others arguing for distinct species status. Warne (possibly the first to have discovered *P. adductum*) believed it to be *P. philippinense* and both Karasawa

and Fowlie claimed it to be the already described *P. elliotianum*.

Seeing the entrenched conflict amongst noted botanists, paphiopedilum enthusiasts were reluctant to take sides and continued to purchase and accept the species under both names.

An attempt to solve the confusion had to be undertaken and perhaps the best overview of these two controversial species were undertaken by James Asher Jr., a botanist with the Department of Zoology, Michigan State University. His article was published in the Orchid Digest, Vol. 47 No. 6, Nov-Dec, 1983. If one wishes to obtain the technical data associated with the naming of this species, this article is well worth reading.

By his complete researching of the subject, Asher's conclusions led him to disregard the majority of published data and to revise and re-name the new introduction, *Paphiopedilum adductum* Asher. *Paphiopedilum elliotianum* has remained, for the time being anyway, as a synonym of *Paphiopedilum rothschildianum*.

I, personally, believe that where nomenclatural inconsistencies exist, botanists and taxonomists should pool resources so that a harmonious decision may be accomplished. With modern taxonomical procedures, future botanists and plant enthusiasts will have on hand comprehensive information which should rule out any question as to the identity of any species.

As a plant conservationist, I must, however, stress that a distinction be drawn between incorrect information and botanically withheld information. In some cases botanists will withhold the exact whereabouts of a population as the onslaught of unscrupulous collectors, interested primarily in financial or personal gain, would jeopardise the wellbeing of the colony. It is unfortunate that such precautions must be undertaken.

The Buyer Beware! Many catalogues are still listing *Paphiopedilum adductum* under both names *Paphiopedilum elliotianum* and *Paphiopedilum adductum*. We can't hold the indigenous plant nurseries entirely to blame for trying to make an extra dollar, when noted orchid authorities are still awarding plants under the incor-

rect names. Two clones come readily to mind. *Paphiopedilum elliotianum* 'Penn Valley', FCC/AOS, which I believe to be *P. rothschildianum* and *Paphiopedilum elliotianum* 'Ronlene' CHM/AOS, which is actually *P. adductum*. No wonder orchid enthusiasts are confused.

Botanical pointscoring unfortunately benefits no one. The plant illustrated is from an original importation from Mrs Jacinta Urban, owner of the Tecson Orchid Centre in the Philippines, in late 1979, under the name *Paphiopedilum elliotianum*. The plant differs from other *P. adductum* in the collection in that it has a pure vinicolor dorsal. Held to the light the striping of the dorsal can be faintly seen. As part of the ongoing seedling programme, *Paphiopedilum adductum* has been researched and flaked.

In many developing countries habitat destruction is unfortunately inevitable. For this reason our motto has been Conservation by Propagation. Protection of natural colonies, however, is the best way to ensure their survival as man is mortal.

Wilton *Paphiopedilum* Research Collection  
PO Box 19, Wilton 2571

## Mt Gambier OS welcomes new Patron

The famous "Blue Lake" city has a very active orchid society in spite of comparative isolation. For many years the late Merv Green of Adelaide took the society under his wing and made frequent visits to advise members, judge, and take part in workshops. His death was a sad loss.

Now another champion has accepted the role of Patron. He is Clive Halls of Mt Beenak Orchids, east of Melbourne. Clive and his wife Agi have a long way to travel but relish the chance to help a fine little society.

This year Clive set out to alert Mt Gambier members on the odontoglossum alliance and its potential.

Wayne Gill is president of Mt Gambier. He will be pleased to welcome visitors at any time. The society meets fourth Monday of the month, except December, and the secretary, Mr J Shaughnessy, can be contacted at 30 Reginald Street, Mt Gambier, SA, 5290.



# Firsts in Orchids and Stamps

Ron Chalmers

Seldom heard of Guadeloupe, a West Indies island group *departement* of France, was the first country to illustrate an orchid on stamps. This was on a series issued in 1905-07 which used the vine foliage of *Vanilla planifolia* but not the flowers or seed pods. The orchid is a commercial crop in Guadeloupe grown for its long seed pods, the natural source of vanilla flavouring. The vine was used to embellish the series and is not the main feature of each stamp.

The credit for presenting the first orchid flower on a stamp goes to Costa Rica, which featured *Cattleya skinneri* on a one cent stamp in January 1938.

The genus *Orchis* is another first, being the type for the family Orchidaceae, with *Orchis militaris* as the type species for the genus. It was therefore the first orchid genus described by Linnaeus who included many species now transferred to other genera. Only about 30 species are now ascribed to it.

*Orchis* species have been pictured 16 times on postage stamps. Its wide distribution in northern Europe and Mediterranean countries, and even into Asia, has made the species very familiar and therefore a natural choice as a stamp subject.

This year Bulgaria issued a set of six stamps, one of which shows a flower of *Orchis papilionacea*.

In October 1984 West Berlin issued a set of four orchid stamps, one of these showed *Orchis ustulata*. The stamp portrays the flower and part of the plant.

Gibraltar, in 1977 and again in 1982, issued a stamp featuring *Orchis tridentata*, face value 0.5 pence. The head of flowers is shown. An unusual aspect is a description of the orchid on the reverse side of the stamp. Its common name is Toothed Orchid (hence *tridentata*) and it is found occasionally among grassy patches on the rock. Flowers appear April to May, are fragrant, and vary in colour.

*Orchis maculata* has been used on stamps by several countries, notably Russia in 1973, Scotland (Island of St Kilda) 1969 and 1970, and the Balliwick of Guernsey, 1972.

The Balliwick of Guernsey launched a 14p stamp last May, which shows *Orchis laxiflora* in a meadow setting, as part of a Europa 1986 issue. *Orchis laxiflora* is called the Whitsun Orchid, a reference to when it flowers. The same species in Jersey is known as the Jersey Orchid and its likeness can be found on a 7½p stamp issued in January 1972.

Turkey used the red flowered *Orchis antolica* on a stamp issued in November 1980 — and a very attractive stamp it is. Also red flowered is *Orchis coriophora* pictured on a 40pf. stamp from the Deutsch Democratic Republic (East Germany). The D.D.R. also issued, in April 1970, a 30pf. stamp which featured *Orchis militaris*.

The widely distributed *Orchis morio* appears in a stylised design on a 70 dinar stamp issued by Yugoslavia in 1957.

Cyprus, proud of its orchids, produced a block of four orchid stamps in July 1981. The 50m value shows a beautifully presented *Orchis punctulata*.

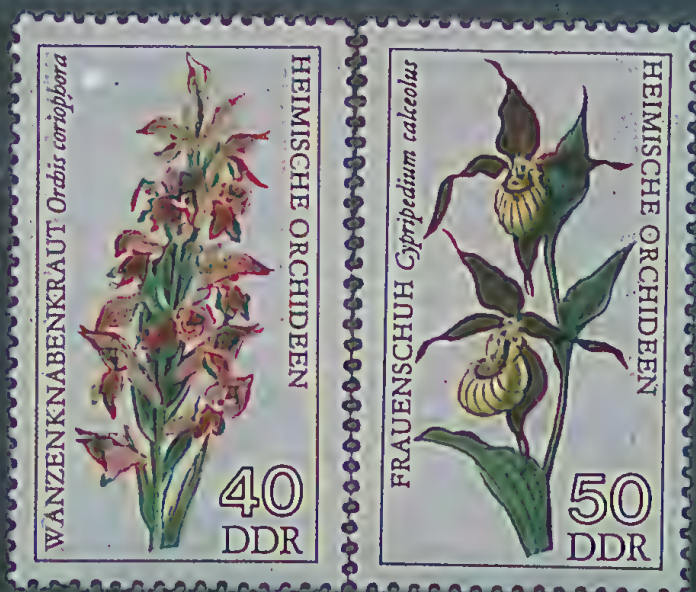
A Swedish stamp issued in October 1982 adopts a botanical presentation of *Orchis mascula*, showing flowers, leaves, and a breakdown of a single flower. All that on a small stamp. *Orchis mascula* is remarkable for a distribution extending from North Africa to the whole of Europe and Asia, and into Siberia. Quite a range of climates.

The *Reichenbackia* stamps described and illustrated in the winter edition of AOR were reproduced from paintings by Henry George Moon, who has been acknowledged "as perhaps the greatest of English flower painters". Moon was noted for his botanical accuracy and integrity, thus his orchid paintings are true to life. Sadly many orchid stamp designs are not of this high standard.

Four orchid stamps  
from Cyprus, depicting  
*Ophrys kotschyi*, *Orchis  
punctulata*, *Ophrys  
argolicaelegant* and  
*Epipactis veratrifolia*.



Below: From East  
Germany, these two  
excellent orchid stamps  
— *Cypr. Calceolus* and  
*Orchis Coriophora*.





# Society News



## Maroondah Orchid Society Show

At its superb new venue, Maroondah Orchid Society held its annual Spring Show on what turned out to be a typical Spring weekend in Melbourne — wet one day, fine the next! But inside the brand new Nunawading Civic Centre the weather did not matter as visitors viewed the many splendid displays of orchids.

One of the talking points was the display exhibited by the Foster-Johnson clan. In this country, exhibits of more than 3 metre frontage are rare, so to see a 10 metre frontage, chock full of flowers, was bound to create excitement. This display was a combined effort by Horry Foster-Johnson, his son Jim and grandson Andrew, three generations of orchid growers getting it together in one massive exhibit.

No one was sure exactly how many orchids were on display but 150 was a conservative count. Outstanding was a massive plant of *Coelogyne cristata* over one metre in diameter and having 250 + flowers all open. More than 14 different genera were

represented and not surprisingly the exhibit was granted the Pre Eminent Award of the Show.

Congratulations Horry, Jim and Andrew. It may be a way off but will we one day see four generations of Foster-Johnsons showing at Maroondah? I for one wouldn't be at all surprised.

*Clive Halls*

## Slim Warner wins

Slim Warner of Townsville Orchid Society is a veteran of 30 years growing and all his experience paid off at his society's show this year. Grand Champion.

The plant was a rather special *Ascocenda* Yip Sum Wah, bought as a seedling 15 years ago. It is now 75cm high and almost continuously in flower. The prize winning spike was 40cm high, standing well above the plant and carrying 26 blooms, each 43mm x 43mm. Colour was basically red with tessellations.

Nice work Slim.

# ANOTHER WEEKEND OF ORCHID DALLIANCE WITH THE ROCKHAMPTON ORCHID SOCIETY May 1987

by Brian Maxwell

Rockhampton, situated on the Tropic of Capricorn in Coastal Queensland, has the ideal climate for growing to perfection a wide range of orchid genera. Cattleyas, dendrobiums, vandas and oncidiums thrive in the sub-tropical situation and phalaenopsis and paphiopedilums can be brought to perfection with just a few basic precautions.

The equable climate results in these orchids and their intergeneric families flourishing under outdoor shade-house conditions.

The cheapness and ease of construction of this type of housing has been one factor in the development of several very large orchid collections in the city and also a host of smaller ones. The collections of such growers as Ken Bambrick, Terry Dean, Colin Hamilton, Fred Rosel, Allen Stenlake and Greg Williams have been well publicised in past issues of the Australian Orchid Review and in future such names as Ray Bills and Rod Elder will gain recognition.

For some years it was felt that these collections should be appreciated by a much wider audience than just our local growers. This feeling resulted in the organisation of a great fun-filled weekend of visits to orchid collections and other related activities. The last in 1985 saw 200 orchid hobbyists from as far north as Tully to Coffs Harbour take part.

It has been decided to hold these functions every second year and the next will be on Queensland's long weekend of 2nd to 4th May 1987. Why not plan a holiday now?

A long weekend was chosen to allow travelling time for remote visitors and the May weekend because it usually coincides with the flush flowering period of our hardcane Dendrobiums. Hundreds of canes a metre or more in length topped by racemes of similar length create a breathtaking rainbow of colour to dazzle the vision. The lovers of other genera will not

be disappointed either as the range and quality on display is equal to the best in any other centre in Australia.

Foliage lovers have not been forgotten and African Violet lovers will have a treat in store at Jeanette Elder's.

Buses are provided to convey participants to the collections and a dinner-dance, raffles and an auction complete an entertaining two days. The third day is left free to enable privately-arranged visits or a leisurely return home for distant travellers. All who attend will be assured of finding fine orchids, culinary delights and friendly companionship.

Should your Society organise a bus load, those attending can be assured of a very warm welcome from our members.

For further details please write to: The Hon Secretary, Rockhampton Orchid Society, P.O. Box 5949, Rockhampton Mail Centre, Qld 4702. We would like to hear from you.

P.S. While visiting Central Queensland for the "Weekend", dally a while longer and sample the tourist delights of the Capricorn region.

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## AOF helps fund computer

The Australian Orchid Foundation has paid half the cost of a computer for the Australian National Botanic Gardens, Research Section. It is being used among other things, to maintain a complete listing of orchids. The other half of the cost was donated by the Nell and Hermon Slade Trust. Total outlay was \$23,388.00.

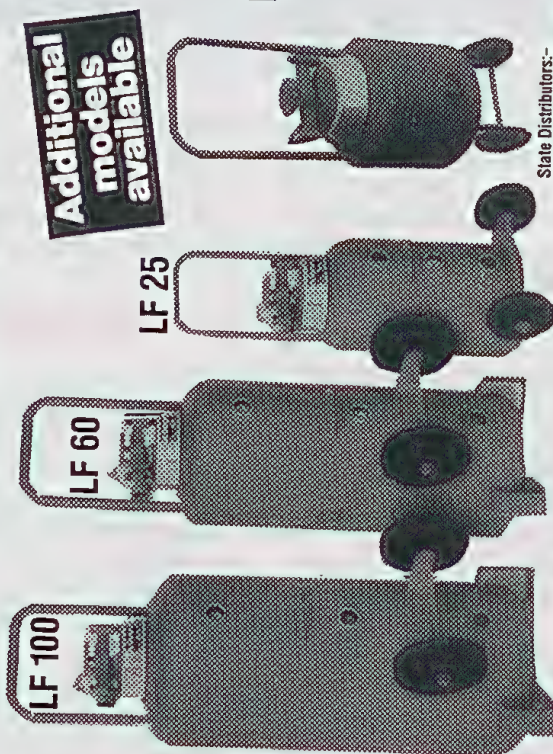
This is but one way the Foundation and Hermon Slade assist orchid research. Donations to the Foundation Investment Fund are tax free, and may be forwarded to the AOF at 107 Roberts Street, Essendon, Vic. 3040.



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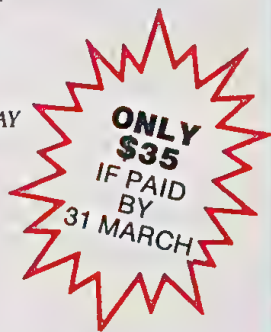
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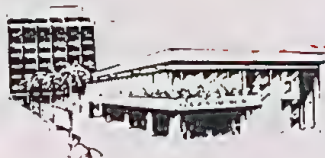


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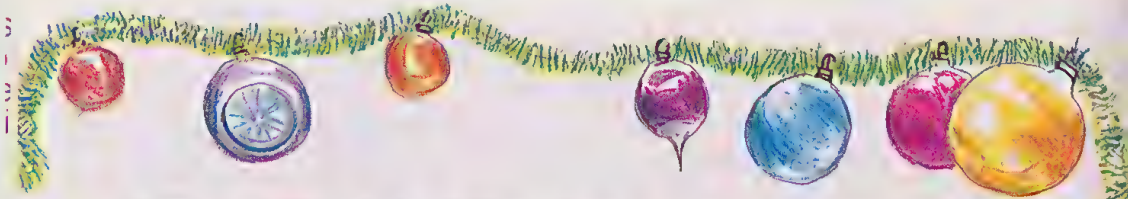
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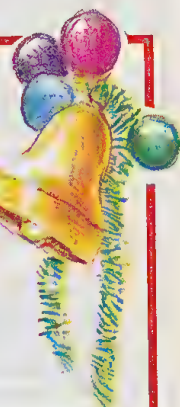
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Expect full-shaped whites with coloured lip.

**THE FOLLOWING VANDA PARENTS ARE ALL OF EXCEPTIONAL FULL SHAPE AND WITH THE ASCOCENDA INFLUENCE THE TIME TO FIRST FLOWERING IS SHORTER AND THEY WILL FLOWER MORE FREQUENTLY.**

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Even though there is Ascocenda in the crossing, expect large vanda size blooms, dark blue, extra full shape.

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Expect very full shaped reds

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### (BLC. NEIL BLAISDEL X LC. TERRY WAYNE) X LC. WESTERN SUNSET

Yellow to orange background, splashed petals, good shape — very highly recommended for the cattleya connoisseur.

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Expect a range of sunset colours, full shape, exhibition type.

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Lc. Hawaiian Fantasy is one of the most popular splashed petaled cattleyas in Hawaii. Expect yellow background with purple splashed petals, very full shape.

**THE ABOVE CROSSES ARE AVAILABLE IN FLASKS ONLY. Vanda, Cattleya and Dendrobium flasks contain approximately 30 plants — \$30. MINI FLASKS NOW AVAILABLE, 15 PLUS LARGE SEEDLINGS \$20, PHALAENOPSIS AVAILABLE IN MINI FLASKS ONLY. ALL READY FOR DEFLASKING.**

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- C0109 Slc. Yellow Doll x C. Small Fry tall spikes, yellow with rose lip.
- C0111 C. Little Bit x C. Small Fry pale rose with red lip
- C0112 Sc. Beaufort 'Elmwood' AM/AOS x C. Little Bit well-shaped yellows, rose lip.
- C0114 C. Small Fry x C. Tin Roof pale mauves, yellow throat, pink lip.
- C0115 C. Dual Aura x L. Oweniana pale pink, cream throat.
- C0116 Slc. Red Gypsy x Lc Button Top bright reds, yellow throat.
- C0119 Sl. Orphetti x Sl. Psyche full shape reds.

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each flask contains approx. 10 plants for \$25.

- P0401 Phal. Rice Cracker 'Bright Future x venosa 'Walnut' multiflora 1" flowers in yellows to orange.
- P0402 Phal. Summa 'Rex' x Elise de Valec 'Coquette' large flowers with spots.
- P0403 Phal. Golden Gift 'Classic' x Allspice 'Bengal Tiger' expect well formed yellows.

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- RA 38 Phal. Robert Cich 'Brother' x Golden Amboin 'Lung-Ching' yellows
- RA 39 Phal. Goldiana 'Brother' x Brother Canary 'Lung-Ching' yellows
- RA 40 Phal. Zuma Cupid 'Amado Vasquez' x Zuma Ballad 'Bonnie Vasquez'
- RA 41 Phal. Zuma Holiday 'Maria Vasquez' x Zuma Happiness 'Zuma Giant'
- RA 42 Phal. venosa 'Zuma Beauty' x Lipperglut 'Zuma Canyon' pinks
- RA 43 Phal. psylantha 'Green Cloud' x Golden Amboin 'Lung Ching' greens, yellows
- RA 44 Phal. Lipperlang 'Zuma Canyon' x Dorothy Lee 'Bonne Vasquez' large pinks
- RA 45 Phal. Zuma Firefly 'Jean McPherson' x Dtps. Alice Loeb 'Zuma Joy' white with red lip.
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C. Milton Warne 'Premier' .....	2"	\$6.00
Bic. Gold Country 'Fine Gold' .....	2"	\$6.00
O. Golden Age 'Richella' .....	2"	\$7.50
Sic. Hazel Boyd 'March Lion' .....	2"	\$7.50
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Sic. Hazel Boyd 'Easter Bonnet' (flowering size) .....		\$125.00
Sic. Hazel Boyd 'Buttermilk' (flowering size) .....		\$125.00
Sic. Hazel Boyd 'Tropical Fantasy' (flowering size) .....		\$125.00
C. Loddigesy Corulea 'Blue Sky' (flowering size) .....		\$75.00

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C. Interglossa .....	2"	\$2.25
Bic. Toshie Aoki x Bic. Destiny .....	2"	\$2.25
Bic. Chancemakan x Bc. Donna Kimura .....	2"	\$2.25
C. Horace Maxima x Bic. Green Ice .....	2"	\$2.25
B. Digbyana x Lc. Casitas Springs .....	2"	\$2.25
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*Cymbidium Valerie Brown 'Eureka', HCC/AOC—OCSA*

REFER AUSTRALIAN ORCHID REVIEW — SUMMER 1985 — Page 25

*Eureka this year flowered in late July with 2 upright spikes of 21 & 18 flowers. It won best plant in the division at the O.C.S.A. August meeting.*

*Unfortunately it was past it's best for the spring shows & hence was not shown this year.*

*In 1985 when awarded it had one upright spike of 25 perfectly positioned flowers (width across petals 114mm).*

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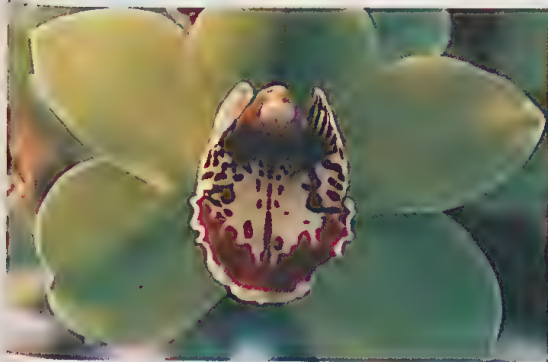
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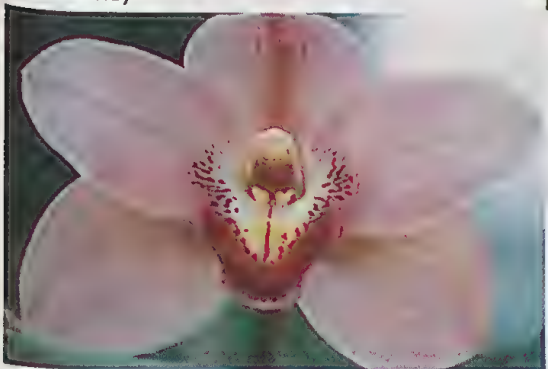
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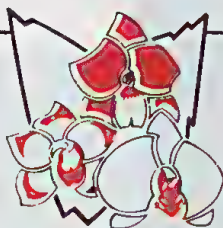
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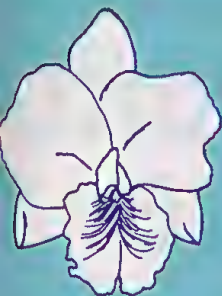
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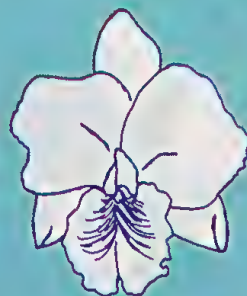




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 SS. 2031 LC. AMBERGLOW 'MAGNIFICENT' x BLC. FORTUNE 'GOLDEN THRONE' — Yellow/Red lips  
 SS. 2032 LC. CHINE 'BOUTON D'OR' x LC. AMBERGLOW 'MAGNIFICENT' — Orange/Red lips  
 SS. 2033 LC. JANICE MATTHEWS 'CEYLON' x BLC. MEM. CRISPIN ROSALES 'No 2' — Chocolate Reds  
 SS. 2034 BLC. RANGER SIX 'LAINGS' x BLC. MEM. CRISPIN ROSALES 'No 2' — Pale Red Lavenders  
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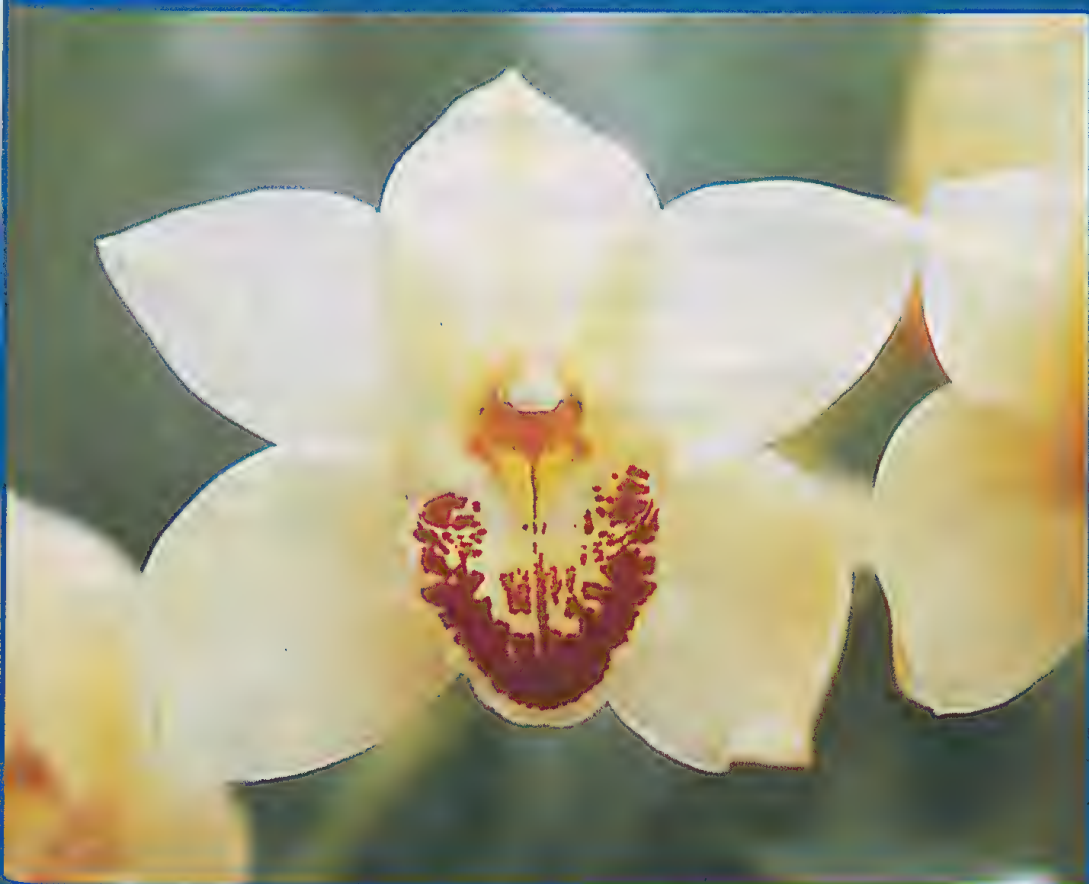
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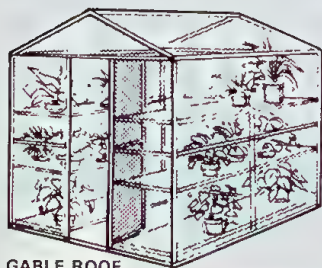
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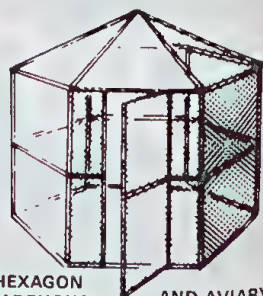


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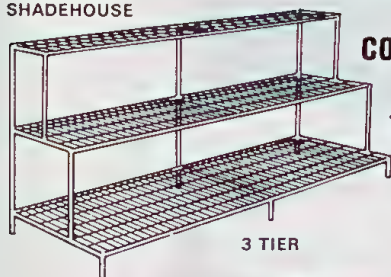
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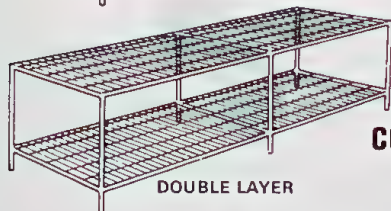
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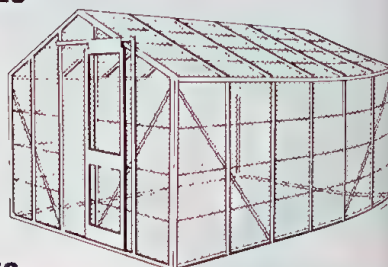
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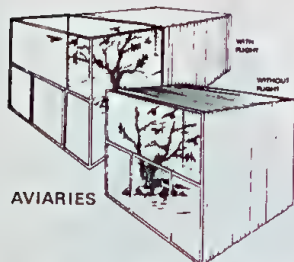


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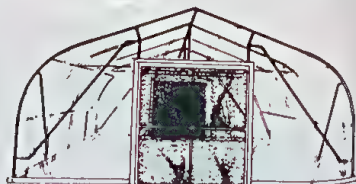
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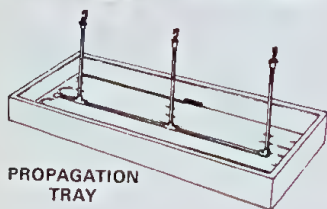
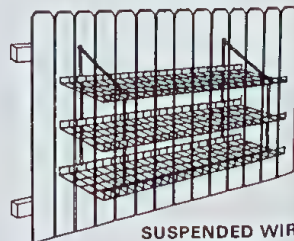
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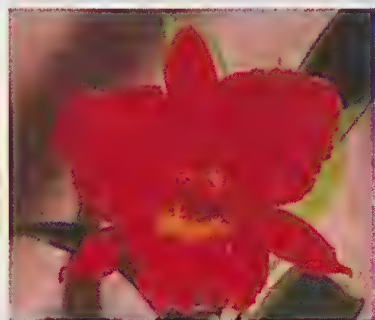


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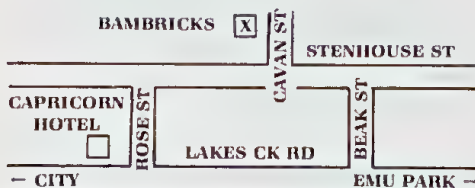


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'Amado Vazquez' HCC/AOS/AOC



Phal. violacea  
'Zuma Royalty' HCC/AOC



Sweet Memory x venosa  
'Zuma Canyon' HCC/AOC



Phal. Cardinal  
'Zuma Canyon' AD/AOC

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Cym. (Sylvania 'Sonnet' x Hamsey 'The Globe') 'Debbie'.

'Debbie' flowered for the first time July 1986. It is typical of the many fine winter flowering seedlings coming from our crosses.

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Subscription Co-ordinator Linda Green.

**14 McGill Street, Lewisham, NSW 2049. Phone: (02) 560 6166.**

**SUBSCRIPTIONS:** In Australia: one year \$A21, two years \$A39

Asia/NZ air mail: one year US\$27, two years US\$50.

Other countries air mail; one year US\$33, two years US\$58.

Surface mail anywhere overseas one year US\$22, two years US\$40.

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Published and printed by

GRAPHIC WORLD PTY LTD

14 McGill Street, Lewisham 2049 (02) 560 6166.

Telex AA127936 Fax (02) 560 6677.



**The publishers of the Australian Orchid Review financially support the Australian Orchid Council.**

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# Australian Orchid Review

VOLUME 52 — No. 1

AUTUMN 1987



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Cover Photograph *Stanhopea Embreei* Dodson. By Bernard Greer



# *Galeola foliata* Stirs Imagination

RONALD KERR



The heavy overnight rain had battered the flowers. This picture covers less than 10% of the plant.

A slide of a *Galeola foliata* flower shown at a meeting of the Central Coast ANOS Group brought vivid memories:—

I was on a ridge overlooking banana plantations at Coffs Harbour. On a photographic orchid search I had walked a long way up a road then made a U-turn onto a trackless forest ridge. Now in late afternoon, and with all exposures used, I gazed down on the road below. It would be shorter, I decided, to cut across the gully below than retrace my steps.

Soon I was in unexpectedly dense scrub and it was only possible to see a few metres ahead. Fallen logs and large rocks made the going hard. At one point I had to freeze to let snakes slither out of the way. Leeches caught my odour and looped their way tenaciously from all directions. I cursed my poor judgment.

Suddenly across my path loomed a huge log, fallen perhaps for a hundred years. It must have been one and a half metres in diameter and ten metres long — longer possibly because one end was buried in soil and debris. But the log became instant background for its ornament filled my mind with wonder. All along it was a seemingly leafless vine covered in hundreds — perhaps thousands — of yellow flowers. Each flower was about 35 mm across with strap-like

wide-open segments and a large diamond-shaped labellum rich with red calli.

I could only stare, but eventually said aloud, “Oh you beautiful thing”. And I had used all my exposures.

From the main stem there were many side branches, and from these came secondary branches with five or six flowers. Many branches left the log to climb nearby shrubs. In the filtered-setting sunlight the effect was breathtaking.

I became aware that I had stumbled upon *Galeola foliata*.

I had to go, as not to be caught in the dark amid this labyrinth of dank greenery, leeches and creatures whose domain it was. But I was determined to return next morning with a fully-loaded camera.

That night it rained. And rained. As the storm thundered on the iron roof I drifted to sleep, saying to myself, “My poor orchid”.

Next morning the rain had cleared but the ground was sodden. But nothing could delay me. This time armed with a loaded camera and a heavy brush hook I shouldered my way through the dripping bushes.

Disappointment. The rain had battered the vine to shreds. I was able to photograph one bedraggled branch, and pick a few battered flowers from the ground for later photographing. But the pristine freshness was gone.

There are two species of the genus *Galeola*, both endemic to north-eastern NSW and along the Queensland coast. *G. foliata* is the larger-growing species, and the main stem of some clones has been measured at more than twelve metres. It is saprophytic with large almost leaf-like bracts and the name *foliata* is from the latin *foliatus* meaning leaf-like.

It grows rapidly from a large tuber adjacent to decaying wood and climbing trees to which it clings with adventitious roots. The rapid growth can be attributed to the substantial building up of the tuber before the vine starts to grow. This gives the vine easy access to stored nutrients.

Baron Sir Ferdinand von Mueller, Australia's most decorated botanist, named it *Ledgeria foliata* in *Fragmenta Phytographiae Australiae* of 1861, and to confuse everyone gave it two other names now regarded as synonyms. He corrected his original determination to *Galeola foliata* in 1873.

*Galeola cassythoides* is of smaller growth habit than *G. foliata* but is still spectacular. The flowers don't open as wide and are

brown and yellow. It was named by Cunningham as *Dendrobium cassythoides* in Edwards Botanical Register of 1836. Reichenbach corrected this to *Galeola cassythoides* in 1862. It has much the same habitat area.

In spite of its huge size *G. foliata* only has a life-span of two years. It flowers and seeds prolifically and in virgin rain forest has no difficulty in perpetuating itself. Small, slightly-winged seeds ensure wide dispersion by wind. However, the areas best suited to it in NSW were the first cleared for farming and today it is found only in isolated pockets.

There are about 20 species of *Galeola* and the range extends to Japan, Malaysia, New Guinea and the Pacific islands. Normal flowering time for both Australian species is November to January.

Depending as it does on decaying wood for compatible mycorrhiza a likely habitat is the old sawdust around an abandoned sawmill. I have made a point of inspecting these wherever possible and have found it several times — and with a loaded camera. But never in flower •

One of the rescued flowers. The labellum would undoubtedly be the most beautiful of any Australian orchid. It would be about 35mm wide.



### *Galeola* Excites ANOS Members

The ANOS Far North Coast reports in their newsletter the finding of several plants of the magnificent *Galeola foliata* this year.

In one area several plants were growing among debris pushed up by a dozer a few

years ago. They were growing in full sun and clearly visible from about 200 metres away. Another, and large, plant was growing on the track to Disputed Falls in the Terania Creek area and flowered extremely well.

Grafton OS members also report finding one flowering on a roadside •



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# FACTORS THAT INFLUENCE THE GROWING and FLOWERING OF CYMBIDIUMS to PERFECTION

by Alan J Merriman

There are many factors that influence the growing and flowering of that wonderful genus — *Cymbidium* Sw. To grow cymbidiums successfully, one must try to assimilate their natural climatic conditions. Cymbidiums grow in a belt running from the Himalayas, down through the Philippines into Australia. Most of the standard type cymbidium species grow at reasonably high altitudes, which give them warm days, and cool nights during summer months, and dry cool conditions during the winter. e.g. *C. eburneum* grows in Sikkim around 1524 metres above sea level. *C. lowianum* grows between 1370m and 1670 m above sea level. *C. giganteum* grows between

610m and 1520m above sea level. *C. grandiflorum* grows in Nepal between 1370m and 1820m above sea level.

Throughout the major cymbidium growing area the majority of the rainfall occurs during the summer monsoon season. Most of this occurs during the late afternoon and early evening. To understand this more fully, a table is reproduced of a typical weather pattern taken in the cymbidium belt in the Himalayan Mountains.

The months have been converted to coincide with the months south of the equator.

Month	Max Day Temp.	Min. Night Temp.	No of Wet Days	Rainfall Total
January	24°C	12°C	26	806mm
February	24°C	11°C	24	659mm
March	26°C	8°C	17	465mm
April	20°C	5°C	5	136mm
May	17°C	-1°C	7	6mm
June	15°C	-3°C	7	5mm
July	15°C	-5°C	2	19mm
August	15°C	-6°C	3	46mm
September	20°C	-1°C	3	51mm
October	23°C	1°C	8	102mm
November	24°C	3°C	13	198mm
December	26°C	8°C	21	614mm

= 124 WET DAYS

TOTAL RAINFALL = 5379.72mm

Sydney has nowhere near this amount of rainfall, and the rainfall occurs at different seasons. This means one has to increase or decrease the rainfall by artificial irrigation.

SYDNEY'S RAINFALL IS AS FOLLOWS: 1217.67mm

	Jan	Feb	March	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.
Points	337	432	491	526	507	511	437	311	277	319	294	312
	PARRAMATTA 923.54mm											
Points	354	378	402	338	311	327	303	225	200	242	255	295
	PENRITH 784.60mm											
Points	351	334	322	270	231	243	222	159	157	209	269	322



To grow your cymbidiums successfully, a growing house will have to be constructed. This is usually called a "bush" or "shade" house. The size of this structure will vary from grower to grower. A bush house should be ideally made out of galvanised water pipe. Timber is not very satisfactory as the continual moisture causes the timber to rot very quickly. It should be at least 2.4m high and it must run north-south to get the maximum amount of light into it. The southern end should have some form of wind protection such as fibro or fibre glass sheeting. The west wall could be completely covered in with fibre glass, or up to bench height could be left open and from bench height to the roof, covered in with either fibre glass or glass. Another alternative would be to use inch battens, one inch apart.

(Vertical not horizontal). The eastern and northern ends should be covered with 30% shade cloth. The roof can be covered with aluminium slats (50.8mm wide) spaced 101mm apart, but remember the slats should run NORTH to SOUTH, not east to west. Alternatively, a 30% shade cloth could be used to cover the roof. If you live in the western suburbs of Sydney a 50% shade cloth would be ideal, as some of the summer days are very hot. If using 50% shade cloth, the plants must be spaced further apart during the growing season.

Once the structure is up, benches must go in. The ideal benches are made out of ARC mesh placed on pipe frames approximately 0.6m off the ground. An overhead sprinkler system is a must, for watering and to create temperature drops during flower spike initiation time. The first basic rule in growing cymbidiums is that they must be grown in a suitable compost. That is one that will last two growing seasons without breaking down with the continual watering. It must not hold too much moisture as this will cause the plant to lose its roots and cause the plant to fall into an unhealthy condition. This means the compost must be free draining. The compost should have a certain amount of nutrients in it, so as the plant will have food available immediately it is placed in the pot.

Last but not least, it should hold the plant securely in the pot.

Plants should be kept in lines on the benches. It is said that benches should run north to south, as the plants receive maximum light. Plants should be well spaced, at least, the distance between the pots should be the same as the pots on the bench. i.e. 200mm-200mm apart, 250mm-250mm apart. If the plants are in lines, it facilitates weeding and manual fertilizing (top dressing). Also the air can move more easily between the plants, and most importantly, it is easier for you to spray your plants against insect pests. All pot sizes should be segregated, that is, all 250mm pots should be together, and all 200mm pots should be together. **DO NOT MIX** them, as a large pot in front of a small pot means that the larger pot will get the lions share of light, moisture, air and nutrients. Watering is very important as it is the life-stream of the plant. Cymbidiums relish an overhead watering during the warmer months of the year, as this is very important to the growth cycle of the plant. (at least 50mm of water is needed to soak an average sized plant and pot, and so allow the compost to absorb the free nitrogen and also to leach out old non-desirable salts that accumulate in the bottom of the pot after a period of time.)

In summer, watering must be done late in the afternoon, or early evening — just on dusk is the best time to do it. Cymbidiums need a temperature drop to initiate spiking during the late spring to early autumn period. For spike initiation the night temperature in summer and early autumn must drop to 13°C or lower to initiate flower spikes. By night watering, this can be achieved with little difficulty. Watering should be done on most days during the hot summer period except during extended cloudy periods. Never let the plants dry out completely, for it takes a long time for the plant to catch up on its original growth cycle. During winter, watering about every third or fourth day should be adequate, but more likely than not, once weekly should suffice. **DURING WINTER IT IS BETTER TO UNDER-WATER THAN TO OVER-WATER.**

Over the years many books have been written on fertilizers, but very few are specific to cymbidiums. Recently a few notable orchid growers have tried different brands,

noted the results and in some cases modified the formulation.

Cymbidium growers started to "feed" their plants on a more scientific principle in the early 1970s after attending a Nurseryman's conference. One of the lecturers was a Mr Matkin, better known as a co-author of the famous "U.C. Book". He explained the use of the "Soil and Plant Laboratory" at Santa Ana, California. Over the years he had collected a lot of data on the mineral analysis of cymbidiums. Thus, by knowing the N.P.K. ratios in the plant a suitable fertilizer formulation could be worked out to suit the plant at that particular time of growth.

Later Hugh A Poole and John G Seeley did a detailed study on nutrition of Phalaenopsis, Cattleya and Cymbidiums. The result of this study was published in ORCHID BIOLOGY—REVIEWS AND PERSPECTIVES 11, edited by Professor J Arditti.

Mr Bill Johnson of Glenwood Orchids, Victoria tried different fertilizers after reading the results of the Poole and Seeley findings. Then he successfully altered a commercially available product to suit the Seeley and Poole N.P.K.'s. The results of Mr Johnson's feeding programme is now well known.

Dr Noel Grundon of Toowoomba, Queensland has also done a lot of work on the nutritional needs of cymbidiums. In my experience, I have found that cymbidiums grow extremely well with the use of any type of fertilizer regardless of origin — organic or inorganic, as long as it is applied regularly and sufficient irrigation is applied to the plants. If the plants are too green during the summer period (too much nitrogen), spiking will not be as good as it should be. I have found that the use of phosphorous during December/January greatly increases the plants flower spike production.

The Johnson formulation contains: Nitrogen 100P.P.M. — Phosphorous 20P.P.M. — Potassium 75P.P.M. — Magnesium 25P.P.M. — Iron 8-10P.P.M.

The Matkin formulations try to maintain the following levels of elements; Nitrogen 2.0-2.5% — Phosphorous .17-.23% — Potassium 1.8-2.3% — Calcium .6-1.3% — Magnesium .18-.3% — Copper 3-8P.P.M. —

Zinc 20-40P.P.M. — Manganese 20-100P.P.M. — Iron 100-300P.P.M. — Boron 25-150P.P.M. — Molybdenum 1P.P.M.

In basic feeding, a cymbidium requires high nitrogen during the growing season, phosphate and potash during spike initiation time and once the spikes start to appear, a levelling off of phosphates and potash to a more general fertilizer, with perhaps a little more phosphate to keep the bulbs and spikes moving through the flowering season.

During the flowering season, that is, during the spring and summer, any of the general purpose fertilizers will do, such as Fish Emulsion, Nitrosol, Aquasol, Zest, Thrive, Orchidol, Campbells, etc.

It is also beneficial during the summer months to apply magnesium sulphate (epsom salts) to the plants. It can be applied to the top of the pot or applied as a spray. If used as a top dressing, use one teaspoon spread around the top of the pot monthly, or use 500g per 454 litres of water monthly or more regularly if the weather is excessively hot and bright, as the magnesium helps the plant photosynthesise. In a cymbidium, photosynthesis takes place between 6°C and 27°C.

In late summer-autumn, a high phosphate/potash fertilizer is needed to boost flowering, e.g. Peters' Flower Booster, which has a N.P.K. ratio of 11-13-16 (yellow compound "A"), or one can feed the plants Nitrosol one week, and on the alternate week, mix one teaspoon full of sulphate of potash, plus ½ teaspoon full of phosphoric acid 75% food grade per bucket of water, and then water the solution into the plant. It is good practice to vary your fertilizers as some have trace elements and some do not. If you are not sure about the trace elements, the main ones that a cymbidium requires are, Iron, Magnesium, Molybdenum and Boron. Boron is useful as it can help stop deformities in the flowers. Have a look on the label and see if the above elements are mentioned. If not, trace elements will have to be added to your fertilizer programme. **If you wish to mix your own fertilizers and composts, some formulae will be published in the next issue.** (Note: phosphorus does make an orchid flower. It has been found that if a cymbidium has a low percentage of phosphorus within the plant, very few





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flowers are produced. In other words the plants need more phosphorus to produce flower spikes).

Remember — when feeding, drench the pot, don't just wet the leaves as only a very minute particle of fertilizer goes in through the leaf. Most of the fertilizer is absorbed into the plant through the roots. Top dressing with a slow release fertilizer is also beneficial to the plant. During the growing season you can top dress with Osmocote or Nutricote. Use the 3-4 months release. Some growers like to top dress their pots with fowl manure in October and again in December, as this gives the plants a boost through the growing period. Super Phosphate granules can also be applied in December and February. Remember, when top dressing, cover the fertilizer with compost, for if the manure dries out, it will go hard and no water will penetrate the hard layer of manure and if granules are used, the water will wash them off the top of the pot.

Now that the plants are growing well, the cymbidium grower must be aware of the pests that can do serious damage to the plants and their flowers. The most important pest would be the two-spotted red spider mite (*Tetranychus Urticae*). This little mite lives under the leaves in colonies. They form a webbing under the leaves which can just be seen by the naked eye. The first sign of an infestation is a silvery effect under the leaves. Plictram®, Torque®, Omite®, or any other recognised acaricide can be used to control mites.

Today most of the major cymbidium nurseries are practising biological control of two-spotted mites. They are using the predatory mite *Typhlodromus Occidentalis* and or *Phytoseiulus Persimilis*. Most have reported that the predators do a fine job of keeping the mites under control. If using a biological control system be careful in your selection of insecticides and fungicides. Many chemicals are injurious to predatory mites.

Some of the other pests that attack cymbidiums are as follows: *Scales* of many varieties, *Thrips*, *Aphids*, *Snails* and *Slugs*, *Caterpillars*, *Grasshoppers*, *Green Vegetable Bug*, *Dendrobium Beetle*, *Mealy Bugs*.

Most of these can be controlled by using a recognised broad-spectrum insecticide

such as Supracide®, Nuvacron®, Rogor®, etc.

Knowing what chemical to use for a particular pest only comes after years of experience. If in doubt, ask one of the more experienced cymbidium growers in your Society.

Diseases in cymbidiums come in two classes. One, the fungal, bacterial spots, and rots, and secondly, the virus diseases. Knowing what fungus disease has attacked your plant is a pathologist's decision to make. Some of the more common fungicides are — Thiram, Ineb, Dithane-45. If you are plagued by a lot of bulb rot use either Ridomil® or Fongarid® (for rates see tables at end of this paper).

The main virus that attacks cymbidiums is the tobacco mosaic virus (T.M.V.), cymbidium strain. This causes mottling and streaking on the leaves. Again, this takes years of experience to decide whether the mottling is a virus or a deficiency in the plant such as iron, nitrogen or magnesium. IF IN DOUBT, ASK, for virus can spread very quickly through a cymbidium collection. Remember, a virus cannot be cured, so the only cure is to burn the plant.

To grow cymbidiums to perfection, one must exercise clean conditions in the green house at all times and carry out a regular spraying and feeding programme. DO NOT let weeds grow under benches as they harbour pest such as slugs and snails. They can be easily controlled by sprinkling Erase® pellets on the ground under the benches. Keep weeds under control in pots. Remember, they will be competing against the plant for moisture and nutrients.

Weed control in pots is now carried out by many experienced growers. Most are using Tenoran® or Gasatop®.

Now that you have grown your cymbidium to the flowering stage, you will want to enjoy their beautiful flowers. First a flowering house must be provided for them. The ideal structure is a heated glass house, but for the hobbyist, this is out of the question. Before building a glass house, go and see members of your society that grow cymbidiums, to see what type of structure they use. A lean-top type with fibre glass sides and roof is ideal for a start, but a fully



enclosed structure is better. Remember, when cymbidiums are in flower, they like plenty of fresh air and this means the glass house should have a good ventilation system. Air turbulators are also a good investment. A good exhaust fan to draw the air through the house helps considerably in warm weather.

The plants should be moved from the bush house into the glass house just after the buds have left the protective sheathing that surrounds the cluster of buds. Give the plants plenty of room on the benches. Do not crowd them together. If the house is heated set the thermostat at 10.2°C and water the plants just before they start to dry. If you let the plants dry out too much, you can have trouble trying to get moisture back into the pot, especially if the pot is overcrowded with plant. Watering is usually carried out approximately every second or third day in fine weather. If the house is not heated, watering need only be carried out weekly. When watering, try not to wet the buds, or if you do and the day turns hot, and you have no forced air circulation, the sun can use the spots of water like a magnifying glass and burn small holes into the bud tissue. When the buds open, these will appear as small translucent spots on the flowers. Sometimes the buds excrete honey at the base of the flower and this can cause a problem to those growers who sell their flowers. The honey causes a sticky mess on the flowers and when they are packed the shredded paper sticks to the flowers. Most growers who experience this problem wait till they have a nice fine sunny day, then they give the flowers a very fine misting. This washes the honey off and causes no more problems.

Watch for slugs and snails, for they can eat a years work overnight. A few pellets of Measuro 4 or Baysol® will keep them under control. Aphids and mites can also attack the flowers. The looper-caterpillar can also cause considerable damage to buds and flowers. If spraying, only use wettable powders, but usually a residue will be left on the buds and flowers. (Lannate® WP, Topclip®, Malathion® WP, Basudin®, have been used with success).

The main fungi that attacks the flowers

and buds is *Botrytis cinera*. If you get an outbreak of spotting on your flowers, spray with Benlate® or Topsin®. A fine misting over the flowers is all that is needed.

After flowering, the plant should be inspected to see if the plant needs attention, such as repotting, dividing. If the plant only needs to go up into the next size pot, first cut 50mm off the bottom root ball. Then select the pot that you wish to use, allowing room for two years growth. Place about 50mm of the compost into the bottom of the pot. Mix into this a tablespoon of Mag-Amp® or Osmocote®. Place the plant into the pot and slowly place the compost around the plant. Occasionally give the plant and pot a tap on the bench to consolidate the compost down and around the roots. When the pot is nearly full, place another tablespoon of Osmocote® around its rim before putting in the final few handfuls of compost. Then firm down the compost, leaving a very slight depression around the rim to collect water. Make sure the bulbs are level with the top of the pot and do not cover up the bulbs with compost. Water the plant well and then return the plant to the bush house.

If the plant needs dividing, again, cut 50mm off the bottom of the plant. Remove the back bulbs, (that is the old leafless bulbs). With a long bladed knife, try and divide the plant into three bulb divisions. Then select the pieces or piece that you wish to keep and remove the old dead, and broken roots. All wounds should be sealed with Colgraft (made by Shell) or Sulphur Dust. Repot as above.

After potting, give the plant a good soaking and return the plant to the bush house. Do not over water your newly potted plants. Over watering will only retard or eventually kill the plant.

There are many factors that influence the growing cymbidiums. Each one is vital so as your plants will flower to perfection. After many trials and errors, you will eventually master the art of growing cymbidiums to perfection. Remember, if in doubt, please ask a more experienced cymbidium grower at your Society, for his advice could save you a lot of heartaches and of course — money •

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# LYCASTES

by Cy Hutchins

While *Lycastes* have been grown for almost as long as most other genera in the orchid family, they have not been a popular genus for most orchid growers. It is my belief that this has been due to two factors, firstly, the unavailability of a suitable range of seedlings from which to choose, and, secondly, the amount of space that these plants with their large leaves normally require on the bench. In the first instance, the release of many new hybrids in the last couple of years and the use of *Lycastes* in club seedlings competitions, have encouraged many new growers to try their hand with these delightful orchids. In the second instance, the amount of space taken by a mature plant certainly poses problems, particularly if the plant is well grown as the large leaves do occupy a lot of space. This problem can be largely overcome by tying the leaves on each bulb loosely together.

## Potting Mix

A good open mix is required so that excess water is drained quickly from around the roots.

A cymbidium mix opened up with some larger bark has been successfully used. More recently the commercial Debco cymbidium mix has become available and is quite suitable as it is.

## Light

As with the flowering of all orchids, light is a critical factor to good growth and flowering; too much will result in burning and too little in lush green growth and poor flowering.

*Lycastes* are semi-deciduous normally, but I have found them to lose their leaves far more readily in high light conditions.

A little shade should be applied towards the end of August and then progressively applied until December when full shade (approximately 60%) is required. This should be maintained during summer and then

progressively reduced by June, when full sunlight will be most acceptable to the plants.

## Fertilizer

A fertilizing programme that I have found to be quite satisfactory is to use Osmocote (9 month) at repotting time, using one teaspoon to a seven inch pot. Half-strength Aquasol is used as a supplement applied fortnightly from November until the end of March.

*Lycastes* are gross feeders and this programme will ensure large bulbs with good strong canes supporting nice flowers.

As the fertilizer used is inorganic, a harmful concentration of salts can build up in the pot and it is quite important that the plants should be given a really good water at regular intervals in order to flush these salts from the pot. I try to do this weekly.

## Temperature

Probably the optimum condition for good growth and flowering is provided by a glasshouse with just a little heat. However, I have also had good results from an unheated glasshouse, and providing some cover can be provided for them on nights of heavy frosts, they can be grown and flowered quite successfully without heat.

## Watering

It is important that plants be kept moist at all times, being careful not to overwater during the colder months when a weekly watering will probably be sufficient. This is an area where each grower must develop a feel for the right conditions.

During hot summer conditions, water splashed under benches and around plants provides a nice moist atmosphere for the plants, while during the colder months, a drier temperature is preferable.

Remember to flush the plants of excess salts regularly.

### Repotting

I have discovered, to my cost, that *Lycastes* do not like being repotted unless the roots are in active growth. It is important that repotting not be commenced until the new growth is approximately 4 inches high; this will ensure that the new roots will enter the mix and quickly re-establish the plant.

*Lycastes* are quite susceptible to soggy sour mixes and will quickly lose their roots if left long in such a state.

Each plant should be checked each year by knocking them out of the pot, and, if in

any doubt as to whether the mix will last another year, then the plant should be repotted.

As mentioned previously, the large soft leaves cause quite a few problems, including:

- taking up a lot of space on the bench, and
- having an umbrella effect in shading other plants from light and moisture.

These problems can be largely overcome by loosely tying the leaves together with plastic or wire ties. This allows light and water into the base of the plants and greatly encourages development •

## PERLITE: A Successful Potting Medium

Gordon Hansen

Perlite is a sterile, inert material which has been used successfully as a potting medium for cattleyas and other orchids usually grown in bark. It is necessary to use a coarse grade, called locally "grade 500", and to remove any fine material which tends to clog the mixture and holds too much water.

Sieve the grade 500 perlite over a 3mm screen, saving the fines which are used as a cover for my vegetable seed. It can be added to the cymbidium mixture. It is advisable to wear a respirator or dust mask when screening the perlite as there is quite a bit of fine dry dust. The coarse perlite is placed in a 25 litre plastic bucket until it is 50mm from the rim.

The 20 litres of screened perlite is then transferred to the potting tray and lightly watered until it is just damp. To this is added two litres of sieved German peat moss, one cup of superphosphate, one cup of dolomite and one cup of hoof and horn meal. This is thoroughly mixed and is then ready to use. The ingredients adhere nicely due to the moisture in the perlite. The mixture is stored in the 25 litre bucket with the lid on to prevent it drying out.

Those who grow cattleyas know that there is no better time to repot than when the new roots just poke their noses through the base of the pseudobulb. Put a layer of

20mm blue metal or river gravel in the base of the pot to provide some weight, as the perlite mixture is very light. Position the plant and pour the mixture in until it is about 20mm from the top. Firm it down. To this add pea gravel to cover the perlite so it won't wash out when you water or fertilise. The perlite mixture causes far less damage to the young roots than bark and the roots have no trouble growing straight down into the perlite.

A great advantage of the perlite mixture is the ease with which a piece can be removed from the pot. When a plant has grown over the side of the pot it is easy to snip it off — very often well back in the pot — and, holding the main plant, remove the 3 or 4 growth piece. The roots come away freely and are invariably nice and clean.

The mixture is inert and must be fertilised regularly. Do this twice a week during the growing season, using the Johnson formula. My experience is that cattleyas potted in perlite have not stopped growing and seldom fail to flower from the leading bulb.

The average cost of perlite 500 is \$12.00 to \$14.00 for a 100 litre bag. This works out cheaper than imported bark. Recycle the old perlite with the new repotting. There are micro-organisms in the old mixture which should go back to revitalise the new mixture •



## LETTERS TO THE EDITOR

AM I A  
PUMILUM?

Dear Sir,

I must question the validity of the statements in A.O.R. Vol.48.4 and Vol.49.1, concerning the so called *Cymbidium pumilum* 'Tetsugetsu' or *C. Tetsugetsu*.

Some divisions of plants from the same source in Melbourne flowered for me and were very similar to those pictured but were very different from all clones of *C. pumilum* known to me. The large growth habit, the upright raceme and the flower size suggested to me that the original label, *C. pumilum* x *C. Tetsugetsu* was probably correct and that the plant was a hybrid as indicated.

These results prompted me to write to the Orchid Identification Centre at the Marie Selby Botanical Gardens in Florida and the Royal Botanic Gardens in England with flower samples and photographs. Answers from these two authorities are as follows:

Dear Mr Deisel;

Thank you for your inquiry of 21 August 1986. The flower which you sent is larger than typical *C. pumilum* Rolfe and the spotting pattern is more dense, also as you indicated, the plant is larger. Because it lies outside the known variation of *C. pumilum* I would need to regard it as a hybrid, probably with that species. Lip shape and that of its callus are strongly influenced by that parent according to this interpretation. Although we cannot accept this as *Cymbidium pumilum*, it is possible that this is a polyploid clone of that species, but if so the different color to the sepals and petals is not explained.

I am sorry I cannot confirm this as *Cymbidium pumilum*.

Sincerely,

John T. Atwood, Director  
Orchid Identification Centre  
The Marie Selby Botanical Gardens

Dear Sir,

The Director has passed on your letter for me to answer.

With David DuPuy I have recently completed a Taxonomic revision of *Cymbidium* which the Orchid Digest are publishing next year as a book.

In the course of this study we have collected, grown and studied many clones of *C. pumilum*, which is now correctly called *C. floribundum*. We are sure that your plant is not *C. floribundum* but a hybrid of that species. We think that it might be *C. Sazanami*, a hybrid of *C. floribundum* x *Schokei* registered by Suganami in 1963.

*C. 'Tetsugetsu'* is not a name that has been either validly published at varietal level nor registered as a grex name. Sadly once hybrids have been made they are very difficult to name unless the parents are known — the variation in the progeny of a cross can be great.

I hope that the above is helpful to you.

Yours faithfully,

Dr Phillip Cribb  
Royal Botanic Gardens.

I have also written to Japan for any information available about the *C. Sazanami* mentioned, maybe they can clear up the problem.

These answers to my queries together with my own observations suggest to me that the answer to the question is NO I am not a *pumilum*.

Werner Deisel

# BOOK REVIEW

## Phalaenopsis Kingdom from Formosa

Publisher: Asia Agri-Business Corp. of Taiwan. Available from Elliott Wholesale Nursery, PO Box 39, South Johnstone, Queensland, 4859. Hard cover and perfect binding, 298 pp.

Write for details and price.

A remarkable book. There are 1047 phalaenopsis and 163 cattleya illustrations, all in full colour, and beautifully printed on heavy art paper. There are many more illustrations on several pages of advertisements.

A phalaenopsis or cattleya grower contemplating going to Taiwan will find this book invaluable. The Asia Agri-Business Corp. can arrange an itinerary of nursery visits for you (page 262).

The illustrations are not merely an indication of what is being produced in Taiwan, most of the famous clones from nurseries all over the world are pictured. Thus the book becomes much more than a catalogue of clones for you to eat your heart out upon. Used in conjunction with Sanders its value is greatly enhanced, although you will need the 1981-85 addendum for many of them. A few may not have been registered.

In many cases several flowers of the one grex are shown, so that it becomes possible to assess variation within the grex. Nearly all species are represented and this makes it a valuable aid to tracing their influence in breeding.

The colour range is amazing. Hybridisera have been striving for good yellows and this book proves they are succeeding. Pictures of full florescences show that floriferousness is better than what could have been imagined ten years ago.

All names are in English, and occasionally the letters 'N.F.S.' are incorporated in the name. One assumes that this means 'not for sale'. Whether this is meant, or simply that labels have been copied without realizing what they imply is a matter for conjecture. Otherwise the nomenclature is accurate except that italics are not used as specified by the international rules. However a species can be recognised by lack of a capital letter for the second term, thus *P. stuartiana*.

After a hearty burst of phalaenopsis the cattleyas are somewhat of an encore. Nonetheless they can be drooled over with pleasure, and each would be a treasure to find in a nursery.

These pictures of both genera do not convey whether they are good or poor growers, or whether the flowers are weak textured and short lived, but any one of them is worth a punt.

Like the phallies, the cattleya pictures can be used with Sanders in order to better visualise breeding lines.

But if you are a hardened phallie and catt grower no need to punt on this book — buy it ●

## Beginners guide to growing *Phalaenopsis*

BY BOB GORDON

Author Bob Gordon sets out in this book to make phallie growing an ABC affair for the totally inexperienced enthusiast — even one without a glasshouse.

He explains that in cool climates lack of a glasshouse can be replaced by conscientious effort, fortunately placed windows, and nightly re-locations, also judicious watering. He feels the rich rewards make the effort worthwhile.

Growers on the coastal climates of north-eastern NSW and along the Queensland coast should surely find that Bob Gordon's methods will produce results.



# FUNNY STORY COMPETITION

At Australian Orchid Review we have noticed that many of our readers have a keen sense of humour. We receive many witty remarks from readers in their correspondence concerning subscription queries or book purchases.

When told that the book *Orchids in Australia* would be delivered by Comet (couriers) one reader replied, "Not Halley's Comet I hope!" Another reader who had ordered the book as a ruby wedding anniversary present was philosophical about the delay in receiving her copy and hoped it "will arrive in time for my golden wedding anniversary!"

Remember Frank Fordyce's humorous anecdotes in *What is an Orchid Hobbyist?* (A.O.R. Autumn 1986)

"Orchid people worldwide are alike. Those of you that have enjoyed the experience of bird-watching will be reminded of the similarity of certain birds to a few orchid people you know.

Take, for example, the broad-beamed Aisle Waddler, that robust bird who seems to knock over every other plant as they bounce from side to side down your greenhouse walk.

Or the delicate Hyper-hummingbird type that flits from one flower to another in rapid succession, chirping with delight at every stop.

Then there is the curious-crested Cuckoo who must touch and feel every bloom — a first cousin to the Great Crested Flower-twitcher."

We invite you to put pen to paper and let other readers know of your funny experiences with orchids.

Each issue we will print the funniest story received. As a prize the author will receive a free copy of *Orchids in Australia* (Worth \$65.00 see advertisement P.52).

Please limit your story to between 250 and 500 words, typed with double spacing. If you don't have access to a typewriter, *print* your story with double spacing.

Send your contribution to: **Funny Story Competition** Australian Orchid Review, 14 McGill Street Lewisham NSW 2049. Deadline for the competition for the Winter issue is 15th April 1987 •

## SUBSCRIPTIONS

We have had many enquiries regarding the expiry date of subscriptions. In 1987 we will be setting up a system for invoicing which should answer all queries. In the meantime for those of you who are interested, your subscription expiry date is printed on your address label on the envelope containing this issue. If you have already thrown out the envelope please write in or telephone (02) 560 6166.

Linda Green  
Subscriptions Co-ordinator

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# BOOK REVIEW

Growers in favoured spots of more southerly areas may too — at least his methods are well worth trying. He says that they work in northern Canada, so what the heck? If phallies have been on your mind but you were afraid to try growing them because you thought your climate and resources weren't up to them, then buy this book and give them a go.

The established glasshouse grower who has not tried phallies but would like to do so will find this book useful. However for them the more advanced Bob Gordon book *Culture of the Phalaenopsis Orchid* could be the one to buy. (Reviewed in A.O.R. Autumn '86).

If you pine for the thrill of flowering phallies but have been afraid to try, invest in this book and four or five plants. If your climate is not right, you'll have to put a little more effort into things. Success will depend on you, what a thrill to flower one! What a talking point at your society meeting!

It's obtainable from Petra Orchids, P.O. Box 129, Townsville, Queensland 4810. Price probably around the \$10 mark, plus postage.

By the same author *Culture of the Phalaenopsis Orchid*. Covers advanced culture in simple English. Recommended. \$23.25 from above address •

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## Orchid Monographs Vol. I 1986

EDITED BY E.F. de VOGEL

Publisher: E.J. Brill, P.O. Box 9000,  
2300 PA, Leiden, The Netherlands.

Enquiries to publisher

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This is a new concept in orchid publishing. The purpose is to publish in one volume from time to time orchid material from scientific botany magazines. This makes it unnecessary for orchid people to subscribe to several journals in order to

keep up to date. It will be particularly useful for the keen amateur.

The editor is working on behalf of the Jiksherbarium, State University, Leiden. The first volume is in soft cover, octavo size and 86 pp, two maps, 27 line drawings, and 16 colour photographs.

Volume I contains a revision of *Acriopsis*, a tropical Asiatic species about which little has been previously known. A second paper is a revision of several small genera in the subtribe *Coelogyne*.

Great care has been taken with the exhaustive descriptions of each taxon. No portion of each plant: vegetative parts, flowers, or fruits, is overlooked.

The thoroughness evidenced in this first volume indicates that is invaluable to nurseries specialising in species. It is recommended that each species society subscribe on a regular basis •

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## The 'Antelope' Dendrobiums

BY PHILLIP CRIBB

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You will find in this book all you have been wanting to know about *Dendrobium* section *Spatulata* (syn. section *Ceretobium*) but couldn't wade through enough books or visit enough habitats to find out. In short a thorough review of the section.

This revision is important to Australians not only because many of our native species are involved but because many of the species have been used in hybridising over a long period.

Dr Cribb defines 46 species as within the section. There are detailed descriptions, drawings, and maps, also eight pages of colour in which one or more flowers of each species is illustrated. An excellent key to identification is provided.

Considerable natural hybridising has occurred within the section, and also into other sections. In artificial hybridisation 26 species have been used, many, unfor-



# BOOK REVIEW

Unfortunately before the parents were properly named. The resulting confusion has been a threat to taxonomic stability. So much so that this revision was specifically asked for by the International Orchid Commission.

The Australia Orchid Foundation financed Dr Cribb's visits to Australia and Pacific islands in order to further these studies. Some of the more glaring taxonomical misconceptions were removed by Dr Cribb in earlier papers, notably the determining of *Dendrobium tangerinum* as a new species (*Orchid Review* 88:144.1980).

One new species, *D. brevimentum*, is described in this revision.

Dr Cribb acknowledges the assistance given him by many Australian botanists and the Australian Orchid Foundation.

The importance of this revision is multiplied because of the potential of some of the unused species for hybridising. Its wider value, of course, is that it explains most of the taxonomical inaccuracies which have plagued growers. It is therefore compulsory reading for the hybridiser. Nurseries should study it to make sure their labels are correct. Hobby growers need it to ensure they get what they ask and pay for.

Copies are available from the Royal Botanic Gardens, Kew, Richmond, Surrey, England. Price Three pounds, plus 75p packaging and postage •

## Introducing Horticulture

BY CONNELLAN, MAY, MOORE,  
PATRICK

Publisher: A.E. Press (Melb.) 1986

Informative for orchid growers because of its non-technical chapter on the use of the greenhouse. It explains how glass-houses are used, the various types, and their advantages. Heating, ventilation, cooling, and siting are all covered.

Simple and proved horticultural practices are the main theme of the book and it

is particularly useful for the home gardener.

It is recommended for the beginner in gardening, and would be a nice gift for a young couple just moving into their own home •

## Trees and Shrubs Flowers and Plants

Two books for Australian and New Zealand Gardens

The orchid grower has problems in that his shade and glass houses dominate his yard, often at the expense of not harmonising with the environment.

Landscaping with trees and shrubs is the answer. But what trees and what shrubs?

Because control of shading on orchid growing houses is vital the height and habit of trees is very important. Tall trees must be placed where they won't create unwanted shade. When planting it is necessary to know the ultimate height and spread of a tree. In some cases deciduous trees can be an advantage because they give shade in summer but defoliate in winter.

Low growing shrubs can soften the hard edges of orchid houses, and draw the gaze to splashes of colour when in flower.

Newly published **Trees and Shrubs** must be one of the best books available as a concise guide to landscaping. It demonstrates in illustrations and text the use of these plants for special purposes. The height and habit for each species is given and the gardener can be in no doubt as to which species will best suit the purpose.

The influence of lawns and hedges on landscaping is covered in the first part of the book. There are lists for special purpose trees, such as ones for small gardens, large gardens, quick growers, for seaside, wet soils, dry areas, seasonal displays, scent, and more. Shrubs are dealt with in much the same way.

# BOOK REVIEW

A third of the book is devoted to care and cultivation, including how to plant, bonsai, pruning of individual species, container growing and propagation.

There is a comprehensive index.

**Flowers and Plants** overlaps a little with **Trees and Shrubs**, in fact both books complement each other perfectly. The former differs in format in that genera are dealt with alphabetically, thus the orchid genus *Brassia* is on an early page and *Paphiopedilum* halfway through the book. This is not to say that orchids are fully covered, but there is some data of interest to the non-orchidist gardener.

Each recommended species within a genus is described in detail. First with climate zones, and in the case of shrubs the height and spread after ten years is given. Then follows cultivation data, propagation method, and whether liable to pests and diseases.

Plant disorders make an easy to follow chapter, copiously illustrated. Recommended treatments are given for affected plant groups.

The last section is a valuable discourse on Australian and New Zealand climates.

Both books are highly recommended. Published by **Reader's Digest** they are available at bookshops: **Trees and Shrubs** at \$16.95, and **Flowers and Plants** at \$19.95.

## Third Edition Orchid Nomenclature and Registration

The third and revised edition of this essential book for advanced growers is now available in Australia. It is based on the international principles of plant nomenclature as determined by successive International Botanical Congresses. Some changes were authorised in 1982 and their application to orchids is shown in this edition.

Important changes have been made. It is essential that the first three parts of the handbook should be fully mastered by anyone who in any way must deal with the names or naming of orchid species or hybrids.

Copies are obtainable from RHS Enterprises Ltd, RHS Garden, Wisley, Woking, Surrey GU23 6 QB, England, price £3.60 including postage and packing. It can also be obtained from the Australian Orchid Foundation, 107 Roberts Street, Essendon, Victoria 3040 at \$7.50 plus postage •

## HANDY HINTS

### Lolly Water for Spikes

Doug Shepherd, speaking at a meeting of the Rockhampton OS recommended that cut orchid spikes should be placed in a vase containing a mix of half water and half lemonade to extend their life. Sounds logical because the sugar and carbon dioxide in the lemonade provide readily-assimilated nutrients.

Doug is a plant man with the Queensland Department of Primary Industry.

### Sunburn Treatment

Writing in the Caboolture OS *Les Orchidaes* Ben Matthews gives this valuable tip:—

An old known recipe for saving your orchid plant after it has been burnt by the sun is to saturate water with sugar and liberally cover all the plant with this solution. The sugar-water will seal the burnt plant tissue from invading fungi and bacteria, will stop dehydration of the plant, and will allow the root system to take up nourishment. Ben has seen phalaenopsis plants burnt brown by the sun and after treatment with sugar-water and put in a darker spot, most survived •



# Yamamoto DENDROBIUMS

## List of new releases for 1987

- Den. SAILOR BOY 'POPEYE'*. Large white, throat cream-yellow in lip. Sturdy stems, long lasting flowers, good bloomer. Med. & Sml.
- Den. SAO PAULA 'MEMORY'* HCC/AOS. Large beautifully shaped reddish purple flowers with orange-yellow lip. Dark eye in throat. Med.
- Den. GIANT PANDA*. Good round shaped flowers, large white with purple border, yellow lips, reddish brown throat. Thick textured flowers. Med. & Sml.
- Den. CHRYSTER 'RED'*. Large, nice shaped dark reddish purple flowers, deep purple-brown eye in lip. Early bloomer. Sml.
- Den. FRIENDSHIP 'CHAMPION'*. Newly **PATENTED**. Dark reddish purple flowers, dark maroon throat. Good bloomer, excellent grower. Sml.
- Den. ORANGE GEM*. Matures to beautiful deep orange flowers with dark maroon lip. Vigorous grower, long lasting blooms. Sml. & Med.
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# Those incredible Stanhopeas!

Notes from a love affair with an extraordinary orchid.

Bernard Greer



*Stanhopea tigrina* Lindl. (left) alongside *S. nigroviolacea* (Morr.) Beer. The latter has long been confused with the former.

The day my first stanhopea burst into flower (they told me it was *S. tigrina*), I couldn't believe my eyes.

Its huge, savage beauty, its uninhibited perfume, the incredible sculpture of the lip! The way the buds exploded into life, flaunted their brazen charms like Can Can dancers and fell in a heap! This was an ORCHID.

I was hooked.

I had discovered orchids relatively late in life. There was clearly no time to develop even a nodding acquaintance with all of the 600 or so orchid genera. I thought it would be fun to concentrate on trying to collect all the *Stanhopea* species, grow, flower, photograph, enjoy and make notes about them. That's what I have been trying to do for the past ten years.

At the beginning, it seemed to me that nobody else was taking the stanhopeas very seriously. You couldn't export the flowers.

("Export them? They don't even last long enough to get them to a meeting!")

Apart from everybody's back-garden basket of *Stanhopea tigrina* only *S. oculata* and *S. wardii* were well known to fellow orchid society members in those days. You might find *S. ecornuta* or *S. devoniensis* in the larger collections but that was about the extent of our stanhopea world.

In recent years, thanks to a few enthusiasts, plants of the majority of the reputed 45 *Stanhopea* species have gradually been reaching Australia. Through selfings, these species are slowly becoming more widely available in the nurseries.

These notes, from enjoyable amateur years spent trying to "sort out the stanhopeas", are written with the hope that they may be of some help or interest to growers who have newly discovered the excitements of stanhopeas during the

current upsurge of interest in orchid species in general.

### A little compulsory history:

The first inkling of the *Stanhopea* genus reached Europe in 1661. Philip II of Spain had commissioned a Dr Francis Hernandez to go to Mexico and write a report on Mexico's Animals, Vegetables and Minerals. In this opus, Dr Hernandez described and sketched a flower prized by the Aztec Indians. It is now named after him . . . *Stanhopea hernandezii*. More on that later.

The first stanhopea to reach European gardens was *S. grandiflora* (syn. *S. eburnea*). It arrived from Trinidad and flowered for Loddiges in 1824.

The genus was founded on *S. insignis* when it flowered for the first time in the Royal Gardens at Kew in 1829. Imagine the impact of the first sight of those great down-thrust flowers with that spectacular, globose, purple spotted hypochile!

The new genus was named in compliment to the Rt. Hon. Philip Henry Stanhope who was President of the Medico-Botanical Society of London at the time.

### A Little Geography

The stanhopeas most familiar to Australian growers have tended to be the ones from high Andean slopes from Mexico to Honduras. These grow happily in cymbidium conditions in Sydney. But the full roll call of stanhopea species ranges from the stanhopea-rich areas of Colombia, Venezuela, Ecuador and Peru, to Bolivia and the Western and Southern extremities of Brazil. Hence, some of the stanhopea species now becoming available as seedlings and backcuts should be recognised as natives of widely diverse climates.

Think of *S. nigroviolacea* in Mexico at up to 7,000 feet, and *S. wardii* in Nicaragua at up to 5,000 feet. Then think of *S. ecornuta* growing further south in Costa Rica at anything from 1,000 feet to sea level. And *S. tricornis*, sweltering on the equator in Ecuador, at 500 feet or less. No wonder I almost killed my first *S. tricornis*, by expecting it to tough out a Sydney winter hanging under a tree!

On experience so far, and after comparing notes with neighbouring growers, I would group the stanhopeas, for culture, like this:

**Under shade cloth:** *S. nigroviolacea*, *S. tigrina*, *S. graveolens*, *S. shuttleworthii*, *S. embreei*, *S. jenishiana*, *S. oculata*, *S. wardii*, *S. hernandezii*.

**Cold glass-house:** *S. anfracta*, *S. insignis*, *S. martiana*, *S. warscewicziana*, *S. costaricensis*, *S. indora*, *S. lietzi*, *S. guttulata*, *S. maculosa*, *S. panamensis*.

**Heated glass-house:** *S. ecornuta*, *S. saccata*, *S. connata*, *S. tricornis*, *S. candida*, *S. hasseloviana*, *S. napoensis*, *S. cirrhata*, *S. pulla*, *S. platyceras*.

Of course, there will be exceptions and corrections within these groups. Plants of the same species could have come from quite different environments. Your plant of *S. candida*, for instance, might have come from Venezuela or from half the length of South America away, on the other side of the Equator, in Bolivia! There's simply no substitute for constant observation of each plant and reacting accordingly.

For instance, my still immature plant of the rare and beautiful *S. platyceras* (Columbia) is currently growing very well in the warmer house. I don't know its



Dr. Francis Hernandez's sketch of the orchid called by the Aztecs Coatxontecoxochill. Hernandez drew the flower as standing up instead of hanging.





*S. hernandezii* (Kunth.) Schltr. From Mexico. Dr. Dodson has established that *S. devoniensis* is a synonym.

native altitude. Maybe it will need moving to the cold glass-house to flower. Maybe. Watch it.

## Culture of the genus *Stanhopea*

Culture-wise, stanhopeas are not demanding. Give them air movement and a fair amount of shade, with watering and feeding as for cattleyas, and they're happy. Insect pests are not a frequent problem.

Have a mental picture of stanhopeas growing along broad branches or in the crotches of jungle trees with those great flower heads pointing straight down. Or imagine them, like *S. hernandezii*, sometimes clinging to sloping rock surfaces, as our *Dendrobium kingianum* does.

In cultivation, you can flower stanhopeas as epiphytes on cork rafts, but the pseudobulbs don't seem to reach full size that way. I have a plant (*S. nigroviolacea*) that has been established for years *au naturel* in the fork of a tree outside our kitchen window. The afternoon sun scorches its leaves and yellows the bulbs but it flowers happily every year with some flower heads choosing the sunny side and

some the shady side. Don't expect all stanhopeas to be so tough!

The wire basket, lined with paperbark, is the practical solution for flowering stanhopeas. In a wire basket, the down-thrusting spear of the inflorescence usually finds its way out easily. The slatted wooden basket is nice to look at but a surprising number of flower-spears simply butt their heads straight into those wooden slats and never find their way out. Even in the wire basket, when summer comes and the flower-spears are beginning to show, watch the bases of the newly matured leading bulbs closely.

If a flower-spear decides to come sideways instead of down (most of the 'primitive' species do this), you'll probably need to guide it over or under the top wire of the basket. Use a plastic tag as a skid and/or bend any obstructing wire out of the way. The stanhopea does NOT solve its own flowering problems.

Stanhopeas are not fussy about composts. I've seen them growing successfully, for different growers, in pure sphagnum moss, in peatmoss-based cymbidium

compost and in various combinations of bark and charcoal. In late years, I have settled for straight, seedling-size fir bark and the roots love it. Re-basketting is best done in early spring.

### Science, Sex and all that:

Before taking a closer look at stanhopeas in their evolutionary groups or as individual species, let's enjoy the wonder of the horned stanhopeas, simply as a natural phenomenon. Viewed as art, the lip is a fantastic piece of sculpture carved out, solid and smooth-gleaming, from something between soap and ivory. Viewed as an engineering contrivance, that lip is a device of precise measurement designed with complete success, separately to persuade each of many different sorts and sizes of bees to co-operate with the flower in the fertilising process. Not, mark you, just so that any passing bee will fertilise any stanhopea but so that each specialised bee, with very few exceptions, will seek out and fertilise his own special kind of stanhopea! Which explains, of course, why different stanhopea species can bloom side by side with so few cases of natural hybridising. It works like this. The three critical factors are the differing perfumes, the precise measurements of the parts of the lip and ... time!

The lip divides into three obvious sections. (1) The hypochile; the bulky, perfumed part at the top, where the lip meets the base of the column. (2) The mesochile; the short middle portion that carries the horns. (3) The epichile; the piece at the end, more or less shield-shaped or heart-shaped.

The hypochile is the source of a perfume targeted to attract a sexual response in one particular species of bee. The bee (only the right bee) gets the message, invades the hypochile, collects the magic elixir, gets drunk on it, attempts to fly off with his spoils and ... falls!

The carefully-shaped chute formed by the horns and the epichile positions the bee perfectly in a controlled slither, down and out past the pollinia. On his way, he thus collects the gum-tagged pollen mass from its cache near the end of the column glued, exactly as planned, to his metathorax.

This is where the time factor comes in.

The freshly collected pollinia are bulky. The stigmatic area of the unawakened stanhopea is small and unreceptive. Should the bee happily blunder right back to the same flower, fertilisation will not occur. Because A will not fit into B. (Nature preferring to avoid self-fertilising). But, as time goes by, two things happen. The pollinia, drying as the bee flies, shrink in size. The stigma, triggered by the bee's action, enlarges and becomes receptive. Sooner or later, as the bee plunders some other flower, the pollen finds a welcoming home and fertilisation begins. Nature has it her way.

Remember this time factor when you are selfing or hybridising stanhopeas. After removing the pollen, let it dry out for an hour or two at least, before applying it to the stigma.

### The Game of the Name:

A surprisingly high percentage of stanhopeas is wrongly labelled. Imported jungle plants often spring surprises when they flower because the unflowered plants are nearly always impossible to identify. An overseas supplier may, in all good faith, think he has sent you *S. guttulata* but it turns out to be *S. insignis*.

You can be lucky. My plant of the rare and beautiful *S. nipoensis* arrived as a member of a group, labelled "*S. peruviana*", which produced *S. anfracta*, *S. embreei* AND the magic *S. nipoensis*!

Apart from that, commonly accepted names often perpetuate old errors. Books are still being published showing pictures of *S. nigroviolacea* identified as *S. tigrina*.

An exhaustive article by the late Dr George Kennedy (Orchid Digest, Nov. Dec. 1977) pointed out that *S. tigrina* was first described in 1837, and illustrated by Bateman, with its unmistakable allover spotting and blotching pattern, in 1839.

*S. nigroviolacea*, a similar flower but with the sepals dominated by a large area of solid maroon, with a deeper hypochile and with its 'escape route' tailored to fit a smaller bee, was originally described in 1845 as *S. tigrina* v. *nigroviolacea*. Morr. in *Ann. Soc. Bot. Gard.* 1:233, t. 21 June 1845. Nine years later it was elevated to



specific rank, *Stanhopea nigroviolacea* (Morr.) Beer, Pract. Stud. Orch. 313, 1854.

Somehow, this fact has largely escaped the attention of orchid folk in the one hundred and thirty three years since then.

*S. nigroviolacea* is common in Australian collections and almost always labelled *S. tigrina*. The true *S. tigrina* is, in fact, a rarity in this country. (See photograph of the two species flowering side by side).

*S. grandiflora*. Many Australian collections include a small bulbed stanhopea, usually labelled *S. grandiflora* or, sometimes, *S. bucephalus*. This plant is unusual in that it is reluctant to flower in Sydney. When it does, it turns out to be *S. jenishiana*, an attractive, spotted yellow species from Ecuador.

And what of the name *S. grandiflora*? When botanical rules are followed, it seems that this name properly belongs to what we have been calling *S. eburnea*. Dr Calaway Dodson cleared up these and other confusions in his "Clarification of Some Nomenclature in the Genus *Stanhopea*" (*Selbyana*, Jan. 1975). On the same authority, accepting that the original Hernandez illustration of 1661 does, in fact, illustrate what we have been calling *S. devoniensis*, then that stanhopea is properly to be called *S. hernandezii* (See photograph and sketch).

Ladies and gentleman, please adjust your labels.

### The Exciting "Antiques":

A few intriguing "primitive" Stanhopeas, with vestigial horns or no horns at all, are apparently carryovers from earlier stages of the genus's evolutionary history. Relatively rare, warm-growing, they have their own off-beat kind of beauty... if you can find them!

*S. ecornuta* is from hot and humid rain forests from Guatemala to Costa Rica. The petals and sepals are creamy white, with a few pale pink spots on the sepals. The waxy, slipper-shaped lip is yellow with purple spots. The two-flowered inflorescence comes sideways. Watch out or it will tangle with the top wire of the basket.

*S. cirrhata*, from the steamy jungles of Costa Rica and Panama, is rare to disappearing point. My plant, which first-

flowered last year, is from seed imported by Bob Deane. The two sulphur-yellow flowers shine like high-gloss enamel. Primitive "horns" at the base of the hypochile are glittering red. (Before you ask, this year's attempt at selfing failed. We'll try again on the next flowering.)

In *S. tricornis*, (Colombia to Peru), evolution went on a side track. The petals, usually paper-thin and reflexed on stanhopeas, are of solid substance and forward-projecting, joining the three horns of *S. tricornis* in the pollinator-guiding process. A free-flowering and beautiful ivory-and-yellow stanhopea. Keep it warm in winter.

*S. candida* is the virginal, snowwhite lady of the stanhopeas. (If it met the brassy *S. nigroviolacea* socially, it wouldn't talk to it!) Two to five relatively small, elegantly shaped white flowers with a mere suggestion of horns at the base of the hypochile. *S. candida* is found in Amazonian forests from Venezuela to Colombia to Brazil. Keep it warm, of course.

### The Hardy Ones:

*S. embreei* is a dramatic ivory-coloured stanhopea from Ecuador, usually with a few casual dark beauty spots on the sepals. A dark eye dominates the yellow-and-white hypochile. Three to seven big flowers at a time! This one grows in the cold glass-house or even under shade-cloth in Sydney; sometimes mistakenly labelled *S. jenishiana*. Recognise *S. embreei* by the somewhat squared and flat-based hypochile. (See front cover).

*S. inodora*, from Mexico and Nicaragua, big-bulbed, broad-leafed and vigorous, is happy in Sydney in any condition from heated glass-house to hanging under a tree. But it flowers most luxuriously in the cold glass-house. The only clone I have seen here throws heads of six to ten lovely pale flowers usually described as "ice-green". The hypochile is partly gold. If you have room for only one stanhopea, try and make it this one.

*S. oculata* is a spotted pale yellow with a white epichile and almost always a black eye-spot. It flowers widely from Mexico to Panama with considerable variation. The unmistakable characteristic is the slender,

*Stanhopea* unknown  
species Can anyone tell  
Barney Greer the name?



knee-angled hypochile. *S. oculata* is an easy and delightful one to grow under shade-cloth. Oddly enough, it is often confused with *S. wardii*.

*S. wardii* is a cool-growing, spotted gold beauty that ranges from Venezuela to Nicaragua and down into Colombia. Identify it by the chunky lip, with its short, black-eyed hypochile completely lined with black-purple. *S. wardii* is a later-flowering species, extending the stanhopea season from spring-summer into April, in Sydney.

*S. graveolens* look like a pure gold *S. wardii* at first glance. Look more closely and (1) it's dotted almost all over with fine red pin-spots. (2) there's no black eye-spot or dark lining on its chunky hypochile. *S.*

*graveolens* grows on cool Andean slopes from Mexico to Honduras and lives happily in a cymbidium climate.

*S. shuttleworthii* is an easy and rewarding one to grow. *S. shuttleworthii* is from Colombia. The hypochile, curved like a shortened banana, identifies *S. shuttleworthii*.

### Excitement from Ecuador:

*S. napoensis*, from Ecuador, has an elegance all of its own. The flying sepals are palest of pale pink, lightly stippled with red. The hypochile, if I can exaggerate a little, is like a golden ping pong ball fine-dotted or scribbled all over with purple. This is a rarity, discovered as recently as





*S. saccata* Batem.

Habitat range from Mexico into Central America.

1963. A warm grower. If a plant comes your way, treasure it. And self it.

*S. connata*, another appealing rarity from Ecuador (and into Colombia and Peru) has a different character entirely. Its chunky, postery beauty centres on a globular hypochile, dominantly red, from which red spots radiate; these growing smaller as they spread across the orange petals. Fine red pin-points sprinkle the sepals. There are a few selfed seedlings around. Find one if you can.

*S. anfracta*, the easy-growing gold one from Ecuador, flowers generously (five to twelve smaller-than-usual flowers in a compact bunch), and apparently on impulse. It has flowered for me variously in February, June, September and November. The hypochile is compactly squared-up and deeply in-folded. Its characteristic near-black eye spot is more or less dominant in different forms.

### Favourites and Rarities:

*S. rodigasiana* is not a stanhopea any more but I couldn't bear, after all these years, to leave it out of these notes. The

lovely orchid from Colombia which has been *S. rodigasiana* since 1898 was placed in a separate, specially created genus in 1985, by Dr Calaway Dodson, and is now *Embreea rodigasiana*.

The inflorescence consists of one large creamy flower with a cluster of bold, dark spots on the sepals. The lip, dotted all over with red, is so complex in shape it obviously fools the pollinator into doing its work by dazzling it with science!

*S. martiana*, from Mexico, is a cool-growing jewel, scarce in collections and in nature. Its white is glistening snow-white; its red is blood-red. The only plants I know of, in Sydney, flowered for the first time last year. The attempted selfings failed. This year's flower buds look lusty and promising. We'll try again.

*S. guttulata*, from Brazil, spotted all over and with a long boat-shaped hypochile, has a dragon-like beauty. I was delighted to find, when Wal Upton flowered it last year, that it really exists! Importations labelled *S. guttulata*, like those labelled *S. platyceras*, have always seemed to flower as *S. wardii* or *S. insignis*. Will try and self this year's flowering.

*S. saccata*, with its fresh-faced, comparatively small, yellow-and-white flowers, grows on Western coastal slopes from Mexico to Honduras. It usually sends its flowerings sideways rather than down. The flower photographed is the typical *S. saccata* with a deep-pocketed, narrow hypochile. The photographed flower head, one of York Meredith's, was one of eight successive flowerings, from January through to April, in a heated glasshouse. I hear it will also flower cool, in Sydney. *S. saccata* is often confused with *S. radiosa* which looks very similar at first sight but has narrower horns and a less-folded epichile. *S. radiosa* grows at the Northern end of *S. saccata* territory.

*S. insignis* is no sissy. Robust and handsome, it ranges from Peru to Brazil. The ivory sepals, shaded with yellow and leopard-spotted with purple, are backdrop for a great waxy purple globe of hypochile! In some forms, there's just the brave, brassy meeting of yellow and purple. Pure show biz! I've seen *S. insignis* flowering strongly outside, under shade cloth, while another clone showed cold spots after a winter in an unheated glass-house and needed to recover in the hot-house. Watch your plant. Brazil is a big place.

*S. unknown*. (photograph) This was a hearty stranger that turned up, unlabelled, from Peru. A big ivory and yellow flower boldly spotted all over the sepals and petals; long sweeping hypochile with a purple-black cavity; great broad horns. Looking straight down over the column, for a top view of the lip, the hypochile is normal width but the spread 'elbows' of the horns are as wide as in *S. tigrina*! Is there an expert out there who can recognise it?

*S. warscewicziana* is from the rain forests of Costa Rica, so it needs plenty of shady humidity. It's creamy compact flowers, with their globular hypochile, are produced generously.

I had assumed that *S. warscewicziana* would always need winter heat. But last season, although I placed the clone with the dark spot in the warm house as usual, I hung the other, paler, clone experimentally in the cold glass-house. And it flowered brilliantly!

**NOTE:** In pursuit of my gather-all-the-stanhopeas project, I am still trying to locate examples of: From Colombia, *S. annulata*, *S. florida*, *S. impressa*, *S. ospinae*, *S. reichenbachiana*. From Mexico, *S. quadricornis*, *S. intermedia*, *S. ruckeri*. From Costa Rica, *S. gibbosa*. From Ecuador, *S. frymirei*. From Bolivia, *sideltoidea*. Would appreciate hearing from any grower who has a plant of any of these for sale, or perhaps exchange for Australian or New Guinea species.

*Unbotanical thought.* If the stanhopea were a lady, loving her as I do, I wouldn't want to marry her. She'd be impulsive, changeable, electric; flamboyant in one mood and demure in the next. And how she would upstage and outrage the neighbours! Oh, I don't know. She might be a headache but she'd never be a bore •

Photographs by Bernard Greer

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# SELECTED SPECIES

## *Dendrobium victoriae-reginae* Loher

Peter Taylor

The genus *Dendrobium* is widely distributed from Korea and Japan throughout the Indo-Malaysian region, Indonesia, to Australia, New Zealand, and Polynesia. In the Philippines there are 106 recorded species and, to my mind, *Dendrobium victoriae-reginae* is the most beautiful of the species from these islands.

It was discovered by A. Loher and described by him in the *Gardeners' Chronicle* of 1897. It was dedicated to Queen Victoria who was celebrating her Golden Jubilee at the time.

This arrestingly beautiful species grows in moist mossy forests at 1800-2400m altitude on the islands of Luzon, Mindoro, Negros, and Camiguin.

Plants have quite long (25-60cm) pendulous stems covered with papery sheaths. Inflorescences are borne on old stems. The flowers are about 3cm across and the white base colour of petals, sepals, and lip is wonderfully finished with an eye-catching blue-violet.

I find the species easy to grow as long as simple cultural practices are followed.

1. Good air movement, provided by a natural breeze or by fans in a glasshouse, is essential.

2. Constant humidity must be provided. I find this species more adaptable to glasshouse than bushhouse environments because of the more constant high levels of humidity in an enclosed environment.

3. Medium light is required. Too much sun causes yellowing and premature loss of leaves. It is, however, deciduous and old canes are leafless.

4. I have experimented with a variety of pots, media, and slabs for this species. I find it fairly forgiving, and it readily spreads roots over cork bark or grows lushly in a pot. Perhaps the best growth I've had (luckily, with my best clone which has flowers of an amazing deep violet-blue) is in a well matured clay pot which was soaked in water for a week before use. The



*Dendrobium victoriae-reginae* Loher

Photo: Peter Taylor

medium was fir bark, charcoal, perlite, and some strands of sphagnum moss included for moisture.

5. *Dendrobium victoriae-reginae* is watered, along with the other species in my collection, twice weekly in summer and every seven to ten days in winter. However I mist the glasshouse regularly summer and winter, and attempt to keep the floor (earth covered with old bark, moss, and ferns) soaking wet.

Like many species orchids *D. victoriae-reginae* is tolerant of the method used to anchor it for growth. But — it is totally intolerant of an inhospitable growing environment. However, far from being an orchid exclusively for the expert species 'nut', it responds readily to the grower who is prepared to study a little of its habitat and requirements •

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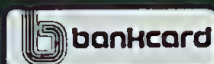
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# Automation without tears

RONALD KERR

I was impressed when Sid Batchelor, renowned for his hybridising with Australian Native orchids, demonstrated an electronic device for controlling glasshouse environment at a meeting of the Orchid Society of NSW. It comprised a little black box designed to control three functions through a small red sensor dangling from the end of a wire.

For some time I had been contemplating using automation for my small glasshouse but the complications of buying an assortment of equipment and co-ordinating its use had made me procrastinate. There was the risk too that I would make the wrong decisions and end up with expensive gear that would not be appropriate to my scale of operation.

Sid's demonstration seemed sheer magic. The black box had a lead for plugging into any power socket. It was waterproof for

mounting in the glasshouse, and on the underside were three recessed sockets to take leads for evaporative cooler, fan, and heater.

To demonstrate these Sid had plugged in leads to three lights. By warming the little red sensor with his fingers the light connected to the cooler plug came on, and the light representing the fan went out. Then, using an aerosol spray to cool the sensor the evaporative cooler light went out and the light connected to the fan came on. At colder temperatures both the heater and fan lights operated.

This seemed convincing enough but how would it go over a long period under my conditions? The way to find out was to buy one. I found the price to be surprisingly low — certainly much less than buying separate equipment for each function.

I connected the black box to my cooler



The Envirotrol set up in a glasshouse. A monitoring maxi-mini thermometer is alongside. On the right can be seen the edge of the Ventrol which is designed to open automatically when air pressure builds up in the glasshouse.



Pete Thomas in his phallie house. Visible behind his head is the Ventrol auto-vent, and to the left of it the Envirotrol "little black box". The cooler is under the bench below the vent, and circulating fan above Pete's head.

and fan just as the hot weather commenced in early summer. I had no need for the heater at this time as my thermometer showed a minimum of around 13°C each night. The fan and cooler have worked so well I have no doubt that the heater will be as efficient.

On connection the temperature was 22°C with the cooler set for operating at 25°C. As the day warmed up the cooler cut in and the fan cut out. Twisting the temperature knob to 27°C, the cooler stopped and the fan came on. I left it at this setting.

On very hot days my glasshouse temperature has climbed to about 35°C. I have found that by bringing the cooler in early the humidity is increased quickly and maintained over a longer period. This tempers and reduces the heat. I have a very mixed collection and most genera seem to like this treatment. As a precaution I have used a

fungicide spray because the sustained high humidity tends to favour fungi. However the fan operates all night and tends to dry out the leaves.

If the temperature is marginal the passing of a cloud shadow can switch the action from cooler to fan, and back to cooler when the cloud has passed.

The simplicity of this arrangement makes the unit an important tool for the small glasshouse. It is adequate for one about 4m by 2.7m and a little over 2m high.

The unit I have been using is known as Envirotrol 1. It is designed for a fan heater of 2400 watts output at ten amps, one evaporative cooler, and a circulating fan. The heat control adjustable to cut in on any setting between 8°C and 20°C and the heater can be set to come in at any setting between 25°C and 35°C. Both these controls are simple calibrated knobs. The fan runs when the heater is on, and on its own





Showing shadedcloth arrangement used. On the ridgetop is the water pipe with misting jets which are activated by the Envirotrol III unit.

Photos: Ronald Kerr

when the heater cuts out. It stops when the cooler starts because evaporative coolers have a powerful fan.

I obtained my unit from Pete Thomas of Kenthurst. Pete had been faced with the problem of adjusting his three small glasshouses to the environmental ranges recommended by Rebecca Northen in *Home Orchid Growing* for each group of genera. When he invited me to see how his houses operated, I jumped at the chance.

Pete is a retired engineer who has a son skilled in electronics, so his answer to controlling his glasshouses was to call on both skills.

In defining optimum factors a control system would have to meet, he specified a temperature range of 12°C to 30°C with humidity not below 40%, or over 70%, with 55% preferable. He considered that light could be more easily controlled with separate glasshouses. He uses 70% for his cattleya house, 85% for phallies, and a mixture over a fibreglass house with portion under 50% shadedcloth and portions under 70% and 85%. In this house temperature is kept between 13°C and 30°C, with humidity at 50%. The house contains a

wide range of genera, including softcane and hardcane dendrobiums, lycastes, oncidiums, a few cattleyas and vandaceous, and odontoglossum alliance hybrids, also masdevallias, paphiopedilums, and pleiones. As I have only the one glasshouse I was particularly interested in this approach.

Like Pete I have my shadedcloth about 30cm above the glass to create an insulating layer of air. On the southern end, which contains my cooler, I place in summer an extra layer of 50% shadedcloth to protect cool growers. Warm growers are kept at the northern end. Before using Envirotrol 1, my fan and cooler were manually controlled, which meant virtually no control when I was absent. In the few months I have been using Envirotrol there has been a noticeable improvement in my plants.

In summer I leave my door open with the disadvantage that pests can get in. In winter manual control of venting can mean that heat loss is excessive and therefore expensive. Consequently I was very interested in Pete's automatic venting. This comprises a hinged vane high in the end wall of each house which opens when the

flow from cooler or fan causes the inside air pressure to be greater than the outside pressure. Thus the vent is an air outlet not an inlet. This keeps heat loss to a minimum at night and helps dissipate heat during the day. Pete tells me that his control is quite inexpensive and will be on the market this year. It will be marketed under the name Ventrol. An electronic humidistat called Humitrol, with a range of adjustments between 10% RH and 95% RH is now in production.

Pete Thomas has found that on heat wave days the cooler will not be able to hold the temperature down to the desirable maximum. I overcome this to some extent by setting my unit at 27°C which brings on the cooler before the really high temperature and keeps the cooler going longer. However Pete has overcome excessive heat with a modified unit designated Envirotrol III. This controls a solenoid which turns on water to a pipe mounted along the ridge and over the shade cloth. The pipe has fine nozzles which spread a mist over the shade cloth thus cooling the air between the cloth and glass. This is set to operate when the temperature exceeds 2°C over the setting at which the cooler commences to operate.

My Envirotrol I is proving very effective under summer conditions. I have no doubt it will be just as effective when used with a fan heater in a small glasshouse. However my glasshouse, while as wide as Pete's is twice as long. I asked about this and was told that it was possible to use a more powerful heater, or additional heaters, by adding accessory equipment external to the Envirotrol.

Pete Thomas also pointed out that while he was very concerned in having the unit made he is not involved in its production. Manufacture is by Digital Audio Processing Pty. Ltd., P.O. Box 40, Concord West, NSW 2138.

Because I am convinced that this unit is the answer to many of the problems met by the small glasshouse grower of orchids, and is value for money, more space has been devoted to it than is usual for commercial orchid products •

## **"IT MUST BE A MERICLONE — IT ONLY HAS ONE NAME"**

Let us take the example of a label carrying the cross *Blc.* Golden Slippers x *Blc.* Fortune. Well most of us would assume (most likely correctly) that we are looking at a seedling. But this cross is registered as *Blc.* American Heritage (registered by Stewart Inc. in 1974). Regardless of what clones of Golden Slippers and Fortune are used, whoever repeats the cross any time any place is producing *Blc.* American Heritage and the plants are correctly named thus and are obviously seedlings.

However, the plant may carry the name *Blc.* American Heritage 'Tetra' — that is it is a particular clone which has been given a variety name. The plant may be the original plant given that variety name or a division thereof or a division grown by the mericlone process. One cannot tell just by looking. However, it is usually safe to assume that small plants carrying a variety name are in fact mericlones.

It appears that some people have bought such repeat crosses (seedlings) and then assume they are mericlones even though they were listed as seedlings. So read those lists very carefully •

**Australian Orchid Review welcomes contributions from readers with small glasshouses about how *you* solved your environmental problems.**

**All correspondence to:  
Kathryn Core  
Publications Manager  
Australian Orchid Review  
14 McGill Street  
Lewisham NSW Australia 2049**



# ELEVENTH AUSTRALIAN ORCHID CONFERENCE

## Celebrate orchids and 200 years

Doug Symons, President Orchid Society of N.S.W.

Sydney will be at its brightest and best throughout 1988 as Australia celebrates the bi-centenary of European settlement. On January 26th, 1788, Captain Arthur Phillip R.N. sailed into Botany Bay with the first fleet to settle this great continent. His ships were laden with convicts, military personnel and supplies, all of which had been carried halfway around the world in what must be counted as one of the greatest adventures of all time. Within twenty four hours it became apparent that Botany Bay was unsuitable for the project and the whole operation was shifted to Port Jackson, some few miles to the north. Port Jackson, counted by many as the finest deep water harbour in the world, is the location of present day Sydney — the focal point of the year-long celebrations planned for 1988.

Sydney has come a long way in two hundred years. From its humble beginnings as a penal settlement it has grown to one of the greatest cities in the world, with a population of over 3.7 million people.

Sydney has a character you will enjoy. Located on the most beautiful harbour in the world it has, as its eastern suburbs, a number of golden beaches of unsurpassed beauty broken by rugged headlands and within easy reach on the west, the picturesque Blue Mountains.

Sydney enjoys a temperate climate well suited to the growing of a wide variety of orchids and the hobby is deservedly popular. Some indication of this popularity can be gained from the fact that there are in excess of fifty Orchid Societies affiliated with The Orchid Society of N.S.W., many of these in the Sydney area.

Australian Orchid Conferences are held every two years, hosted, on a rotating basis, by the different State Societies on behalf of The Australian Orchid Council.

The Eleventh Australian Orchid Conference, to be held in Sydney from September 17th to 25th, 1988 will be an epic event. It is endorsed by the Bi-

Centennial Authority as part of the bi-centennial celebrations and will surpass all previous efforts.

September in Sydney is early spring and you can expect sunny days with an average temperature range between 21°C (70°F) during the day to 12°C (54°F) at night.

A balanced and interesting group of speakers, both international and local, has been arranged.

Sydney is fortunate in having such a diverse range of places of real interest within easy reach. Within the City itself there are such high spots as the World famous Sydney Opera House, cosmopolitan Kings Cross, the historic Rocks Area — largely restored to its early colonial state, Chinatown — a unique resort in itself, Bondi Beach and many other places of unique interest. The beautiful Botanic Gardens and world famous zoo, both situated on the foreshores of the harbour, are worthy of special mention.

The low value of the Australian currency will attract many visitors from overseas and the organisers have reserved a variety of different classes of accommodation to cater for both overseas and interstate registrants.

Considerable interest has already been indicated in the conference but the organisers say "the more the merrier". Brochures can be obtained from the conference secretary: Mr Alan Alvis, 5 Knocklayde Street, Ashfield, 2131, N.S.W., Australia.

The Orchid Society of N.S.W. will fete you in Sydney in 1988 and the time to start making arrangements is right now. Sydney will be a busy place in 1988 and those who leave it until the last minute may have to bring a tent!

This is Australia's biggest orchid event since the Sixth World Orchid Conference, this is the eleventh Australian Orchid Conference — Australia's Bi-Centenary Orchid Festival ●



David Banks and *Dendrobium speciosum* in situ 1985

Photo: John Roberts

# DISAS ARE EASY!

by David Banks

*Disa uniflora* is an orchid which is commonly pictured in orchid books and periodicals. Its bright colour and relatively large flowers have left orchid growers worldwide with an obsession to obtain and cultivate these terrestrial orchids.

The genus *Disa* comprises approximately 130 species centred in South Africa. Even though a few species extend to tropical Africa and four species cross the Mozambique Channel to Madagascar, only a small percentage of the *Disa* species have found homes outside of South Africa. Quite a number have small insignificant flowers which have little horticultural value.

The main species available in Australia are *Disa uniflora*, *D. tripetaloides*, *D. racemosa* and *D. cardinalis*. All of these species are easily grown using the conditions outlined below.

Sydney is on a similar latitude to Table Mountain near Cape Town which is one of the haunts of *Disa uniflora*, known locally

as 'The Pride of Table Mountain'. Therefore no artificial heating is required and, more importantly, the day lengths are virtually the same so that flower initiation poses few problems. Our plants suffered no ill effects from recent heavy frosts (down to  $-1^{\circ}\text{C}$ ). In fact they enjoy cool conditions. Summer is far more the danger time than winter; keeping the roots cool is the aim in summer.

We grow our disas in a bush house under 50% shade; the house has a fibreglass roof to control watering. All of our plants are grown in black plastic pots in pure live sphagnum moss. It is most important that the sphagnum is kept moist, not wet.

Our potted disas are placed on a bed of sphagnum moss on a solid bench. This bed helps to maintain humidity around the plants — in their natural habitat disas are commonly found on the banks of flowing creeks. Good air movement is essential for healthy foliage and the general well-being



of the plants. Under stagnant humid conditions leaf rot becomes a very real problem and must be kept in check. Individual plants don't produce many leaves and the loss of a few greatly hinders the ability of the plant to photosynthesise effectively.

No fertilisers are used as these cause the surface of the sphagnum moss to become slimy and inhibit aeration around the tuberoid and roots.

Disas have a similar vegetative make-up to our local *Pterostylus* or 'Greenhood' orchids. The plant grows from a tuberoid which is just below the surface of the growing medium. After flowering the tuberoid soon collapses but by this time a new growth and tuberoid should have formed to replace the spent growth. From the tuberoid sprout shoots, roots and stolons — root-like extensions which form new plants at their ends. Disas remain ever-green even though growth slows down during the cooler months of the year.

Repotting is an annual practice, after flowering or during early autumn. It is important to plant in fresh sphagnum as after twelve months this medium compacts

and restricts air circulation. During the repotting process the young plants from the stolons, which usually appear at the edge of the pot or through the drainage holes, can be carefully removed and potted individually.

After flowering your first disa most of you would want to grow more of them. Unlike the majority of orchids, disas can easily be grown from seed without the need to resort to flasking techniques. Flasking does, however, produce larger plants in a shorter period of time. Our method, which has also been used by a number of growers, has proved very satisfactory. Firstly, boil some fresh sphagnum moss for 15 minutes in a rice cooker or similar utensil, allow this to cool and place in a new 150mm plastic pot which is filled to half its depth. The disa seed is sown directly onto the surface of the sphagnum. It is important that the seed is very fresh as it does not remain viable for long. We sow our seed as soon as it is ripe. The pot is placed, as is, right next to the parent plants. Within three weeks (commonly less) protocorms can be seen developing; these soon grow a very small grass-



Flowering size plants of *Disa uniflora* on sphagnum bed

Photo: David Banks





like leaf. After twelve months these plants can be potted individually into tubes. Next season the seedlings are potted into 100mm pots in which they will bloom. We have flowered *Disa uniflora* three and a half years from sowing and *D. tripetaloides* in two and a half years.

Plants are watered overhead when the sphagnum just starts to lose its bright green tinge. Fortunately, Sydney has a very good water supply so rainwater is not used — simply straight out of the hose. If doubtful about the quality of your water it may be safer to use rainwater until you have a number of plants to experiment with.

The main pests are slugs and snails which can cause a considerable amount of damage in a relatively short time. Viruses are unknown in *Disa*.

In summary, the main points for growing disas successfully are:

- fresh live sphagnum moss
- 50% shade
- keep moist, not wet
- good air movement
- keep roots cool in summer

Remember disas are bog plants and are grown in the same way as a number of carnivorous plants, such as sundews (*Drosera spp.*) and our Western Australian pitcher

2 yr. old *Disa tripetaloides* plants (front) and disa community pots ready for planting individually.

Photo: David Banks

plant (*Cephalotus follicularis*). They are not grown like 'normal' orchids.

Flowers are produced mostly between November and February although hybridising is now extending both the flowering season and the range of colours.

Plants are now becoming readily available, mostly due to the efforts of The Australian Orchid Foundation. On that note, an excellent illustrated article by Gerald McCraith appeared in the September 1983 edition of the *AOR*.

Disas have an infectious appeal to both beginners and old hands in the orchid game. Actually they are a lot like salted peanuts — once you've had one you can't stop. Before long you will be putting a section of bench aside for disas, but wouldn't that be nice. Yes, disas are easy •



# ORCHIDS AUSTRALIA '86

## — A RETROSPECTIVE VIEW

by John Harris, Chairman

### A Report of the Tenth Australian Orchid Conference and International Orchid Exhibition

After five long years of planning, long meetings and much hard work, Orchids Australia '86 was over in less than a week. Comments like:

"best show we have ever seen anywhere" — two senior and eminent Australian orchid identities.

"the whole show and conference were better than the 1984 Miami World Orchid Conference"—a highly respected American visitor.

stand on their own as a tribute to the success of the Conference and Show:

With 805 registrants, this was the largest Australian Orchid Conference ever, and second only in size to the 1200 who registered for the 1969 World Orchid Conference in Sydney. Approximately a third of the registrants came from overseas, a third from interstate, and a third locally. All States of Australia were represented as were United Kingdom, Netherlands, South Africa, Singapore, Thailand, Japan, Philippines, USA, New Zealand, Mexico and Zimbabwe, giving the conference a truly international flavour.

The show, comprising of 3,300 sq metres, was the largest ever staged in the country and attracted a viewing public in excess of 15,000 people. On the Sunday afternoon, the large hall was so crowded that the doors had to be shut for a short while to allow people to move on and upstairs before more were admitted. \$7500.00 in total prize money was offered for competition, with the Stonyfell Wine's \$1000.00 Grand Champion being awarded to *Cymbidium* Lake Macquarie 'Winsome' grown by T & E Price of NSW. This magnificent spike of flowers had been transported all the way from Sydney *on the plant* and arrived in perfect condition. It was also granted an Award of Merit of the Australian Orchid Council. Reserve Champion of the Show

was *Phalaenopsis* Ryne Zimmerman grown by Zuma Canyon Orchids of California, USA. The show was a credit to all the people who worked so hard on their displays and in particular to Jim Cuming and his Show Committee for all their outstanding efforts in creating the scene for the Show. Also of course, the judges, led by Don Gallagher and his Judging Committee had an unenviable task to complete the show judging over the two levels of the Hall. After almost eight hours of walking, the final results were known. Judges then had to return to the show after the opening night dinner to complete the award judging which finished after midnight — a very long day indeed.

The setting for the show depicted the theme "Pioneering Times", and as there were only 3 days between the close of the Royal Adelaide Show and the conference show set up, a tremendous effort was needed for the conversion. Much co-operation was received from the Royal Show organisers, Adelaide City Council, Burnside City Council, Woodville City Council, Pt Adelaide City Council, Enfield City Council, Adelaide Botanic Gardens and the SA Housing Trust. All these organisations left their constructions, props and non-flowering plants used in the Royal Show for use during the Conference Show. The SA Association of Nurserymen also assisted in the provision of stands for the commercial sales area.

The comprehensive lecture programme, ably organised by Syd Monkhouse and his Programme Committee proved a most enlightening time. On the Friday, the 12 lectures attracted an average audience of over 300 people for each lecture. This was a great tribute to the speakers who paid their own expenses to attend. An added bonus is that the Orchid Club of SA has had the

lectures videotaped, professionally, for sale and also inclusion in the Club programme library for loan to other clubs.

The tradition of conferences past has been to have a preview of the Show and a cocktail party. However, with such large numbers and limited space in the show hall, it was decided to provide an informal dinner for all registrants as part of the Registration Fee. Catering for such a large function is always a problem and it is unfortunate that some registrants experienced less than complete satisfaction with the meal. In the dining hall prior to the dinner, the Conference and show were officially opened by His Excellency the Governor of SA, Sir Donald Dunstan.

On the Friday, 150 registrants, primarily from interstate and overseas were invited to an official reception at Government House, hosted by His Excellency and Lady Dunstan. On Saturday evening the conference Banquet was held at the Hotel Adelaide. 380 people attended to witness the presentation of major prizes, Australian Orchid Council Conference Medals — presented for the first time, and Australian Orchid of the Year Trophies also presented for the first time by the *Australian Orchid Review*. A souvenir menu printed by Graphic World (the AOR Publishers) featured these two orchids of the year. Dinner guests also received on their place card a small hand-made orchid flower. A special effort was made on the Sunday to provide in-home hospitality to any visitors who requested it. As a result some 60 homes provided hospitality for up to 180 visitors. From reports, most people had very pleasant Sunday afternoons. On Monday night it was the chance for everyone to 'let their hair down' and go casual to an Aussie Night at Stoneyfell Winery.

The sightseeing and tour programme, organised by Neil Christoph and the Travel Committee, proved most popular with many tours booked to capacity. Registrants appreciated the opportunity to visit some of the many nurseries.

A particularly successful promotion was undertaken jointly with Australia Post and the Conference Committee to release a set of four postage stamps featuring Australian Native Orchids. On Thursday 18 Sep-

tember, the first day of issue, in a ceremony at the Hotel Adelaide, the State Manager of Australia Post dedicated the series to Orchids Australia '86. The dedication ceremony was followed by an afternoon of lectures organised by the Orchid Stamp Club International and was most popular. On that day and most other days during the show, the artists who designed the stamps were available to sign first day covers. Australia Post have said that it was one of their most successful launches ever. This activity was organised by Bob Nicole and his Promotions Committee who efficiently promoted the Conference and Show.

Having mentioned the more visible side of the conference, much of it would not have happened without the support and work of:

- Evelyn Cuming and the Finance Committee
- Elmore Leske and the Administration Committee
- Deane Johnston and the Commercial Committee.

These groups worked diligently to achieve their respective tasks and made the whole event the success that it was.

One person, in particular, who worked untiringly and almost full-time to ensure a successful Conference was Margaret Hewitt, our Secretary, ably assisted by her husband Gordon. Their trusty computer faithfully recorded all the records of the conference and assisted in the total overall management. Her devotion to the task and prompt action contributed in no small way to the success of the Conference.

In reflecting on all the hard work and ultimate success, it is important to note that the whole exercise received no major cash sponsorship (other than Stonyfell Wines \$1000) or Government financial support. Some \$3500 was raised in show prize donations, but the balance was generated by the Committee and the SA orchid community.

In closing I must say orchid conferences are a time to meet new friends, renew old acquaintances, learn about orchids, talk orchids, and have a great time. Orchids Australia '86 provided the opportunity for these to happen and I know most of the registrants had a really good time •



# IRA BUTLER TROPHY

## Spur to native hybridising

RONALD KERR



*Dendrobium Hilda Poxon 'Jill'* Awarded the Ira Butler Trophy for 1986.

The name of the late Ira Butler stands as a symbol for progress in native orchid hybridising. The current generation of growers may be only vaguely familiar with the man behind the name.

Ira stood out in the 1960s as one of the first to attempt native hybridising on any organised scale. He was certainly the first with hybridising within the genus *Sarcochilus*.

The first hybrid from Australia species was *Dendrobium Specio-Kingianum*, registered by Sir Trevor Lawrence of Dorking, England, in 1892. The next crossing of *D. kingianum* and *D. tetragonum*, registered as *D. Ellen* in 1926 by its hybridiser Mr W. Schmidt, a member of the O.S. of NSW and a contributor to the early issues of this magazine. A milestone cross was *D. falcorostrum* Bardo Rose made by the late Bert Overall from a cross of *D. kingianum* and *D. falcorostrum*.

In 1960 *D. Andrew Persson (speciosum x falcorostrum)* was registered by Mr Andrew Persson. Another early hybridist was Mr Reg Leaney who registered the cross *D. Gillian Leaney delicatum x kingianum* in 1964.

These early crossings were not part of a deliberate Australian native orchid programme. They attracted mild interest but mainstream concern was for glamorous genera with obvious commercial potential.

Ira Butler was never commercially minded. Except for a few flasks, he gave most results of his hybridising away. He was a lover of Australian native orchids who believed that the potential of the genus *Sarcochilus* should be explored with the hope of creating small growing floriferous vandaceous plants that would be easy to grow and have distinctive charm.

His first cross was *Sarcochilus Fitzhart (fitzgeraldii x hartmannii)* registered in 1963. Few of the cross were better than the

parents, yet most were floriferous and easy to grow. Then followed the registration of several *sarcochilus* crosses.

The most successful of these was *S. Lois*, a cross of the dainty *S. ceciliae* and the hardy *S. hartmannii*. The cross has been repeated many times with better parents than Ira had, and some fine clones are in collections. Another good cross made by him was *S. Melba* (*hartmannii* x *falcatus*) registered in 1966.

Perhaps Ira Butler's best known cross was that between *Dendrobium speciosum* and *D. tetragonum*. He produced a great number of flasks from it, many of which were given away, and only a few sold. Thus his original crossing was widely distributed and it has been re-made many times by others. Tragically Ira died before he could register it, consequently it was left to Dr Noel Grundon of Toowoomba to do so in 1977.

Ira's major contribution to native hybridising was that he inspired others to follow suit. Among the first were Bill and Jean Cannons of Port Macquarie. They had been led to an interest in natives by Bas Borger, a Port Macquarie school teacher. Bas had a fine native collection. His premature death left the Cannons to carry on, which they did with notable success at their Wayside Nursery.

The Cannons will be remembered for their successes in crossing *Sarcochilus hartmannii* with species of the genera *Vanda*, *Assocentrum*, *Phalaenopsis*, and *Rhynchostylis* in the early 1970s.

Native hybridising really got under way around 1970 with a school of growers contributing. Among the early ones were Roger Bedford and Walter Upton. Wal Upton has dominated the field ever since. He is one of a widening field of growers with breeding programmes based around Australian native orchids. Among these are Phil Spence, Sid Batchelor, David Cannon, Ken MacPherson, Ken Russell, V. and R. Jupp, David Banks, and C. J. Brandon. Some are into the fourth, even fifth, generation of breeding. Also there are a number of growers who have contributed one or two native crosses.

For some years three growers, Ken Russell, Eric Webeck, and David Banks,

have been working on a programme of line breeding *Dendrobium kingianum*. The object is highly improved forms to introduce into hybridising programmes.

Many fine clones have emerged during the last two decades of hybridising but the best is yet to come. And the impetus for this creativity largely started with quiet, unassuming, Ira Butler.

Very recently a completely new line of hybridising has emerged: the hybridising of native terrestrials. Adelaide growers Les Nesbitt and Bob Bates have produced some fine terrestrial hybrids, as anyone who saw these plants at the Tenth Australian Orchid Conference Show in Adelaide last September can vouch. In the opinion of Bob Bates hybrid *Diuris* will soon be selling as cut flowers.

## THE TROPHY

Establishment of this trophy as a memorial to a pioneer, and as an incentive to workers in this field, has helped greatly to create the current interest in native hybrids.

The Ira Butler Trophy Committee is made up of three members representing the Australasian Native Orchid Society, three from the Orchid Society of NSW, and an independent chairman, Mr John Stuart. John, a close friend of Ira, has, with the aid of committee member Ruth Rudkin, carried out the administrative work of the committee for many years. This work has not only stimulated interest in hybridising, but, even more importantly, interest in hybrids. In 1986 there were more Australian hybrids displayed at shows than ever before.

Entries for the trophy came from the native champions of various shows, being nominated by the societies concerned. The entries came from ANOS groups in Sydney, Warringah, Wollongong, Central Coast, Native Orchid Society of SA, and the Orchid Societies of Tasmania, NSW, SA, and WA. The standard of each entry was very high, and the committee's decision difficult.

The Champion of Champions is *Dendrobium* Hilda Poxon 'Jill' owned by W. and J. Upton •



# THE WINNERS OF '86

RONALD KERR

What are the trends? Prize winning orchids of the 1986 shows can provide some of the clues. Many of the winning plants are available, or will be available, as mericlones or remakes. Also many winners become stud plants and knowing their names can be a clue to buying seedlings.

Apart from the show winners the award winners are a vital source of information on the best in orchids. Fortunately, details of these are well catered for by the annual publication of Australian Orchid Council Awards. As an aid to buying seedlings and mericlones this is an indispensable tool.

## The A.O.C. Award Winners

Cymbidiums may still dominate by impact at most shows south of Queensland's Sunshine coast but they no longer dominate the awards. Of the nine cymbidiums in 1986 (21% of total) only four were standards, four were Intermediates, and one a Miniature. Eight received HCC and one an AD.

Comparing this with the 1985 (20%) and 1985 (20%) AOC Awards Book the same situation is apparent. Standard cymbidiums are down and Intermediates are taking their place. A notable event in 1985 was the award of FCC to *Cymbidium* Jubilation 'Geronimo'.

Over the three years paphiopedilums have come to dominate. In 1984 the figure was 11 (25%) 1985 16 (43%) and in 1986 17 were awarded (37%). In two of these years paphiopedilums gained AOC Orchid of the Year. *P. Song-Bird* 'Pathfinder' AM/AOC-NSW in 1984 and *P. Amanda* 'Camira' AM/AOC-NSW in 1986.

However the big round standard type paphiopedilums make up less than a quarter of the three year total. Out of 43 awards, 32 were either species or primary hybrids. This is a most interesting trend. It indicates that judges have become more aware of species. They have been around, but for years strict adherence to the points system dominated judging. The intro-

duction of optional appreciation judging was greatly to the advantage of species and primary hybrids. Incidentally Award no. 491 on page 6 of the 1985 Awards Book is not *Paph. fairrieianum* as listed, but a primary hybrid. The error is probably due to judging panels, during the long period of lack of interest in species, not being fully familiar with them.

The breeding of paphiopedilums to achieve nice round shapes is into many generations and has been very successful. Just on 118 years ago this breeding started and many interesting primary hybrids were made. The crude breeding techniques of those days meant that only a few plants survived in a cross, and, over the years most faded from collections.

In recent years there has been a revival of interest in primary paphiopedilum hybrids. Some interesting ones have come forward in recent years. So many have been awarded that I feel judges must ask themselves whether they have a subconscious bias towards novelty? Certainly the standard types don't have the vibrant colours of many primary crosses.

During the last few years some unusual new species have been found. The 1986 Orchids Awards Book pictures two of these: *Paph. armeniacum* 'Orchidglen', AM/AOC-QOS, and *P. micranthum* 'Orchidglen', HCC/AOC-QOS, both grown by Ron Williamson. Botanically they are placed in a new subgenus, *Brachypetalum*.

The trend to novelty is also evident in the urge towards unusual species and offbeat hybrids. Several such plants of this type are among the 1986 awards.

Considering the number of cattleyas in collections the number that win awards is surprisingly small. Those that do are magnificent, and if, or when, mericlones are available they are well worth buying.

## The Shows

The outstanding new winner of 1986 was *Cymbidium* Lake Macquarie 'Winsome',

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AM/AOC, a superb white Grand Champion of the Tenth Australian Orchid Conference Show. The owners, Tom and Edythe Price have had this splendid plant mericlone. Look out for it in about 18 months time.

The Orchid Club of S.A. held a Spring Show just prior to the Conference at which the Grand Champion was beautiful *Blc.* Hazel Boyd 'Apricot Glow'. The Hazel Boyd cross has been a very successful one. Many named and awarded clones have been meristemmed and plants from 5cm across to mature size are freely available. All worth having.

The success of the Hazel Boyd cross (*Slc.* California Apricot x *Slc.* Jewel Box) has stimulated great interest in compact growing plants of the cattleya alliance with neat and shapely flowers, brightly coloured and plenty of them. Seedlings from a parent which is floriferous and brightly coloured and *Sophronitis* species partner are now deservedly popular.

A notable new cross among the winners at the Adelaide Conference was *Cymbidium* Volcanic Flash, several clones of which were notable for their rich brown colour. It is from *C.* Volcano x *C.* Mimi.

At Port Augusta Spring Show the championship went to that exquisite pink *Cymbidium* Narela 'Geniffer Gail' grown by Chris and Jo Zimmerman. (Why do so many writers have to put an extra 'l' into Narela — don't they read Sanders?) Reserve went to a plant of that fine yellow *Blc.* Malworth 'Orchidglade'.

Mt. Gambier Orchid Club Champion was a seedling from *Lc.* Hertha x *C.* Bow Bells, owned by Des Geurin. The Reserve *Cymbidium* Ann Miller 'Midnight' (Mary Pinchess x Clyde Landers) was only narrowly beaten.

### A few from Queensland

At the Queensland O.S. Spring Show a well grown and outstanding form of the species *Paphiopedilum sukhakuli* was Grand Champion. Owners were those top growers Les and Phyl Cotton.

Maroochydore O.S. Champion was *Paph.* Mella Nelson owned by Ossie and Vi Granger.

Toowoomba O.S. Spring Festival features top cymbidiums. Last year the

Champion was *Cym.* Citation 'Canary', HCC/QOS, owned by J. and A. Miller. The cross was made from *C.* Dorma x *C.* Wallara, bred by Cec Hodgins.

Townsville O.S. champion was a fine phallie listed as (*Phal.* Alice Gloria x Elanor Schaffer) x Elanor Schaffer x (Ann Cavardo x Springs).

I recommend you not deal with nurseries that don't register their hybrids. Reserve Champion was Ted Boon's *Oncidium* Florida Gold (*O. splendidum* x *O. bicallosum*).

Active and fairly new Bridie Island O.S. staged a show dominating in phallies but *Laelia sincorana*, neatest of the laelias, was Champion on the day for grower A. Smith. Reserve was *Blc.* Ranger Six 'A-OK'.

At Rockhampton the Grand Champion was *Opsistylis* Suree, an interesting intergeneric between *Opisistylis* Lanna Thai (*Rhynchostylis gigantea* x *Vandopsis parishii*) and *R. gigantea*, thus it is three quarters the latter. The plant sported two magnificent spikes of deep wine-red blooms from the main growth and another from a secondary growth. It is owned by Dr Greg Williams and Mrs Williams who also tabled the Reserve Champion *Blc.* Ranger Six 'A-OK' which carried two pristine white flowers of excellent shape and size.

Incidentally Rockie's Autumn Show featured as Champion a fine seedling from *Dendrobium* Impact x (Flush x Margaret Fell).

### Western Australia

Gold is booming in the west and so are orchids. Two new societies were formed last year, bringing the total there to ten. I was invited by Harry Lodge to join the judging panel at the Midlands O.S. and was delighted by the quality of the plants benched. The fine *Phalaenopsis* Spring Flush, owned by Mr and Mrs L. Gale, was Champion. Its beautiful white floescence was at its peak for several shows and became Grand Champion at the O.S. of W.A., the Melville O.S., and Wanaroo O.S. Spring Shows.

*Cym.* Narela 'Geniffer Gail' was Reserve Champion at O.S. of W.A. for Mr and Mrs, J. Pyper. Another division of this clone was Champion at Bunbury for Mr

and Mrs W. Cruickshank. At Albany Mrs E. Cook produced the Champion, a seedling from *Cym.* Vieux x *C.* Durham Castle. At Northern Districts O.S. Winter Show a fine phallie was Champion for Mr M. Clow, a clone of the cross *Phal.* Cast Iron Monarch x *P.* Sonya. At the Spring Show Mr and Mrs Gale again triumphed with their *Phal.* Spring Flush.

### Narela Again

In Victoria the V.O.C. Spring Show Champion was *Lycaste* Macama 'Aline' shown by J. Coker and F. Gauntlett. If you haven't done so make a note to add a few lycastes to your collection. Reserve Champion proved again what a worthy clone *Cym.* Narela 'Jeniffer Gail' is, and since mericlones or divisions are available it should be in every collection. This plant, owned by L. and M. Vines, also was judged Champion at Melbourne Eastern O.S. Spring Show.

At Mornington Peninsula O.S. *Cym.* Valley Zenith 'Green Orb' (Miretta x Zumma Boyd) topped the Spring Show, owned by Bill Johnson of fertilizer formula fame and Mrs Johnson.

That attractive old polychrome *Cym.* Burgundian 'Sydney' (Remus x Babylon) registered in 1955 by Mr H. Schroder of Surrey, England, again proved itself to be a great orchid by winning the Championship at the Warrigal O.S. Spring Show. Few orchids can beat it for eye appeal. It was owned by Arch Robertson.

### Top Double in N.S.W.

Plants of *Cym.* Narela 'Jeniffer Gail' were Champion and Reserve Champion at the OS of NSW Spring Show. Both plants were benched by that master grower of cymbidiums John Mata.

Manly-Warringah Champion was a clone from the cross *Paph.* Silvero 'Snowden' x *P.* Veritilario 'Susan Hughes' owned by R. and J. Petith. Incidentally a check in Sanders and up to January 1987 in RHS registrations shows that Silvero is not listed. Perhaps Silvara, registered by Radcliffe in 1964 is meant?

Berowra staged its usual nice show. The Champion was a fine plant of *Dendrobium* Andrew Persson 'Camira' owned by Wal

Rhodes. Reserve went to Dr J. Burstall's *Cym.* Highland Mist 'Lachere'.

Parramatta O.S. championship went to Bill Temple's *Cym.* Burgundian 'Sydney'. This proved that well flowered it is a superb orchid, and that its win at the Victorian Warringal O.S. show was no fluke.

### The Natives

Native orchids and their hybrids are now a prominent part of every show, a far cry from the time in 1962 when I suggested to Laurie Svenson and Allen Rushton that we of the then small and year old Berowra O.S. should put on an entire native exhibit at the OS of NSW Spring Show.

Since then native hybridising and exhibiting has boomed and native societies proliferated. Now the champion native hybrid at any winter or spring show can be nominated for the Ira Butler Trophy, an award acknowledging one of our first hybridisers.

Sydney Group of the Australian Native Orchid Society nominated *Dendrobium* Peter 'Citron' (*fleckeri* x *falcorostrum*) one of a grex which has produced many fine clones. Owned by D. Butler.

ANOS Wollongong nomination was *Den.* Bardo Rose (*kingianum* x *falcorostrum*). Warringah ANOS nominated a fine *Den.* Hilda Poxon (*speciosum* x *tetragonum*) owned by W. and J. Upton, and from Central Coast Group came *Den.* Star Delight (*Star of Gold* x *ruppianum*).

The Native O.S. of S.A. entered *Den.* Hilda Poxon 'The Lodge', owners R. and P. Rankin, from the winter show, and *Den.* Aussie Bonanza 'Apricot Delight' (Aussie Ira x *falcorostrum*).

At the O.S. of N.S.W. winter show the winner was *Den.* Hilda Poxon 'Winston Hills', shown by David Banks. This cross flowers any time of the year. In spring the winner was *Den.* Bardo Rose 'Val' shown by C. and I. Shepherd.

The O.S. of W.A. nominated from the winter show A. Hancock's *Den.* Hilda Poxon, and from the spring show J. Fleming's *Den.* Andrew Persson.

This does not cover all the winners. It does give some clues to buying for the showbench ●



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# The History & Development of Phalaenanthé Dendrobiums

Barry Pagel

From its definition, the *Dendrobium* Phalaenanthé type is the dendrobium whose blooms resemble the moth, from the Greek root "phaluna". The history of breeding such dendrobiums is very complex and I shall endeavour to give it a chronological as well as a logical explanation.

The original Phalaenanthé Dendrobiums are Cooktown Orchid, *Dendrobium bigibbum* and its cousin from the islands of Timor, *Dendrobium phalaenopsis*. These plants have specific cultural requirements, originating in areas where there are two climatic seasons: wet season which lasts for a few months followed by a prolonged dry season during which the only moisture plants receive is from the dew which settles on the exposed root system overnight. In cultivation, Mother Nature's example must be followed if success is to be achieved. The blooming season for such plants falls at the conclusion of the wet season which may extend from February to May, depending on seasonal climatic factors.

The history of this line of breeding is quite complex as are the reasons for producing such hybrids. The first such hybrid is *Dendrobium* Boisseyence, a combination of *Dendrobium bigibbum* and *Dendrobium phalaenopsis*. This hybrid is the only true Phalaenanthé Dendrobium having both parents resembling a moth in form, a reasonably flat, well-rounded bloom. This hybrid was produced by Vacherot in 1926. It was obviously produced to provide a spray-type orchid with well-rounded blooms.

Early breeding with Dendrobiums was very speculative, I feel, and new stocks of plants arriving in Europe from exotic parts of the world were prime targets for breeding among the early explorers of the world of orchids. Of course there has been much confusion regarding the nomenclature of the species and it is felt that the terms "*bigibbum*", "*phalaenopsis*" and "*schroderianum*" were loosely applied to plants of this group.



*Den. bigibbum* var *superbum* Australia's own "Cooktown Orchid"

The next stage in the development of this group was achieved in 1929 with the production of *Dendrobium* Louis Bleriot, again by Vacherot, which was the result of crossing *Dendrobium phalaenopsis* with *Den. Superbiens* (a natural hybrid). Here the introduction of another section of the *Dendrobium* genus provided a key to the development of darker hybrids and a group of hybrids which exhibit a form different from any hybrid to that date. In the ensuing 16 years hybrids were developed using many of the species from Papua New Guinea and Indonesia, including *Den. antennatum*, *Den. discolor*, *Den. lasianthera*, *Den. lineale*, *Den. nindii*, *Den. mirbelianum*, *Den. pulchrum*, *Den. stratiotes*, *Den. tangerinum*, *Den. taurinum*, *Den. tokai* and *Den. violaceflavens*.

The next significant step forward in the



development of *Phalaenanthus dendrobium* came with the hybrid, *Dendrobium Pompadour*, the product of breeding *D. Louis Bleriot* with *D. phalaenopsis*, by Vacherot in 1934. So far I have covered Stage 1 of the history which has centred in France and which has provided the building blocks, primitive they might be, for future development.

Fortunately orchid growing is an international interest. With the production of these early hybrids, growers in other continents sought out these new hybrids and in areas such as Hawaii, where the cultivation of such plants was considerably easier than in Europe, a new generation of hybrids and hybridists emerged.

Another key in the development of building blocks was the hybrid *D. Sanders Crimson*, a combination of *D. phalaenopsis* and *D. taurinum* by Sander in 1935. This hybrid led to the production of the hybrid *D. Diamond Head Beauty* by McCoy in 1951 and in turn to *D. Lady Hamilton* a little later that decade. This hybrid, produced by Y Inouye has provided the most significant parent used in the modern *phalaenanthus dendrobium*. This hybrid provided a positive direction in which hybridists could travel. In the next decade hybrids such as *D. Anouk*, *D. Amethyst*, *D. American Beauty*, *D. Sagarik*, *D. Helen Fukumura*, *D. Maui Beauty*, *D. Lady Constance*, *D. Lady Fay*, *D. Lady Hay*, *D. Shanrila*, etc . . . appeared, each providing some stock of a standard which would enhance the production of more shapely, darker and larger blooms.

An unfortunate by-product of producing larger, darker and more shapely hybrids was that flower production fell away dramatically. As breeders developed an understanding of ploidy, significant progress was made possible. Unfortunately, even to-day floriferousness is the area where many of our modern hybrids fail to maintain the long spike habit present in the original species.

It was the decade of the sixties that produced hybrids from many parts of the world. Sagarik, in Thailand produced *D. Malee Kanya*, *D. Sumalee* and *D. Sagarik*, providing the groundwork for the exten-

sive orchid industry found in Thailand today. Another significant Thai breeder is Panjip, producing *D. Busaba* and *D. Chao Phya River*, still used in today's breeding programmes. In Hawaii, McCoy, Inouye, Fukumura, Otake, Takaguchi and Kushima



*Den. phalaenopsis* 'Clifton' AM/QOS, owned & grown by George Valmadrae of Cairns. This illustrates the result of selective breeding within the species *Dendrobium phalaenopsis*

all contributed significantly to the production of *phalaenanthus dendrobium*s.

Perhaps one of the most significant hybrids of the sixties was *Dendrobium Hickam Deb*, produced by Kushima in 1961 from two of his earlier hybrids, *D. American Beauty* and *D. Lady Fay*. This hybrid has been used internationally in breeding for improved shape, size and to some extent floriferousness. It has been the "Grandparent" of most of our modern hybrids of the eighties, certainly in the darker red-purple tonings.

*Dendrobium Doreen*, produced by Takaguchi in 1961 using *Den. Theodore Takaguchi* and *D. phalaenopsis*, has been the most significant parent in the production of whites and bi-colours. Some excellent



*Den. Lady "Elen" AM/HOS 1958*

forms of *Dendrobium phalaenopsis* have been developed and these in turn have given rise to many of our modern whites and bi-colours. Combined with *D. Doreen* it has produced *D. Anna Bibus* and an on-going array of desirable hybrids.

During the sixties we saw the birth of serious orchid hybridisation in Australia with many fine hybrids produced by Limberlost, Kirkwood and McFarlane. The bulk of breeding material around the world came from Hawaii as a check of "Sanders List of Orchid Hybrids" will indicate.

Singapore saw the birth of its orchid hybridisation programme at the Singapore Botanic Gardens which, in turn, provided many local nurseries with breeding stock.

Into the seventies we saw a continuation of

outstanding lines of breeding in phalaenanth dendrobiums. Many serious breeders have benefited from the experiences of the previous four decades. Breeders such as Miyamoto produced *Den. Kristen Ann* in 1973. He has been joined by a number of his countrymen such as Teruo Oka, Richard and Stella Mizuta, Perreira, Kazumura, etc . . . In Thailand, Rakpaibulsombat, Kul-tana, Boonchoo, and many others are maintaining the tradition set by Sagarik many years before.

In the seventies we saw an interesting dimension introduced into the *Dendrobium phalaenanth* scene with the production of the hybrid *Dendrobium Impact* by McFarlane. This hybrid and its progeny have the desirable characteristic of produc-



ing blooms away from the traditional flowering season of the phalaenanthé dendrobium.

*Dendrobium Impact* is the result of crossing *Dendrobium phalaenopsis* with *D. Fiftieth State* which was produced in Hawaii by McCoy in 1959. *Impact* itself tends to be somewhat pointed on the sepals and petals but when line bred with quality phalaenanthé dendrobiums, this "failing" will soon be diminished. There has been quite a number of *Impact* hybrids enamating from McFarlane with *D. Approval* (*D. Impact* x *D. Ultimatum*) and *D. Four Seasons* (*D. Hickam Deb* x *D. Approval*), no doubt named because it may bloom during all four seasons of the year. Nevins was responsible for the very successful *D. Hugh Fisher* (*D. Impact* x *D. Margaret Joan Fell*) and much work has been carried out by D'Bush in this line of breeding.

*Dendrobium Impact* and its hybrids appear to be able to withstand our winters much better than the regular phalaenanthé dendrobiums in that it does not lose most of its leaves during winter. One significant difficulty with these hybrids seems to be the plant's desire to produce off-shoots at the expense of new growth at the base of the leading pseudobulb.

In the eighties, line breeding in phalaenanthé dendrobiums continues apace. I would suggest that breeders take a responsible attitude towards orchid breeding and most certainly orchid nomenclature. There has developed over the years, a "gung ho" attitude towards breeding orchids, not only dendrobiums, purely for the sake of monetary gain. Many hybrids have never been registered. This compounds the difficulties of the serious orchid breeder who wishes to continue a line of breeding. During the sixties I can well remember some hybrid dendrobiums with labels half a kilometre in length. Let us not allow this to recur during the eighties.

It has been somewhat disheartening to note that no phalaenanthé dendrobium has been awarded in Australia for many years. It was in 1974 that the last award was made. Two factors have been responsible for this situation, viz. the failure of modern hybrids to carry a suitable number of blooms per spike and the size factor as laid down in

"The Standards of Judging". The Queensland Orchid Society is this year proposing that the maximum points for size be given to blooms 90mm and over, as against the current standard of 105mm.



*Den. Busaba 'Bangsaen' x Mollisa 'Bangsaen'*, owned & grown by Mike Richards of Townsville. The result of selective hybridising — perhaps one of the best phalaenanthé dendrobiums produced

What of the future? Serious breeders of phalaenanthé dendrobiums will continue to endeavour to attain perfection of shape, colour, size and floriferousness. I am sure that further experimental work such as we saw with *Dendrobium Fiftieth State* will fire the imagination of plant breeders for the next century. The way to success is long and frustrating. When one considers that from the time a pollination has occurred to the time that a mature plant has shown its best potential may cover five or more years, the number of stages in such line breeding which may occur during a hybridist's lifetime is limited. Producing orchid hybrids may be likened to producing a fruit cake — while we have the raw ingredients to develop a masterpiece, unless they are correctly blended, the result will be rather bland. Who will produce the next magic ingredient, such as *D. Pompadour* in the thirties, *D. Lady Hamilton* in the fifties, *D. Hickam Deb* and *D. Doreen* in the sixties, *D. Impact* in the seventies? Only time and imagination will tell! •

# Successful year for A.O.F.

The Australian Orchid Foundation has completed another year of beneficial projects for orchid growers.

Foremost was the success in at last achieving an Australian orchid stamp issue. An impressive stamp dedication ceremony was held at the Tenth Australian Orchid Conference in Adelaide.

During the year \$22,500 was advanced for projects of scientific importance. These included:

- Subsidising a fifth expedition, in conjunction with the Queensland National Parks and Wildlife Service. This brings to \$10,000 the amount spent on North Queensland expeditions.
- Joining with Native Orchid Society of S.A. to provide shadehouse for terrestrial orchids at Adelaide Botanic Gardens. \$1000.
- Post-harvest study on improving life of cut cymbidium flowers. \$6000.
- Providing half costs of computer for orchid data at National Botanic Gardens Research Section. Approx. \$12,000.
- Subsidy for orchid research in Solomons and Bougainville by Robert Mitchell of Kew. \$2400.
- Part cost of research by Rodney Peakall of the University of W.A. on genetic systems of Australian terrestrial orchids. \$1200.
- Also many small, but important, projects.

## YOU CAN HELP

Income for these projects comes from sales of odontoglossum alliance flasks and disa flasks provided by Mr Gerald McCraith, book sales, and donations by societies and individuals. Money received is placed in a trust fund and only the interest from it is used. Thus all donations will contribute benefits in perpetuity. All amounts over \$2 are tax deductible.

Donations should be sent to Mr Gerald McCraith, Director, Australian Orchid Foundation, 107 Roberts Street, Essendon, Victoria, 3040.

## Recognition Awards by A.O.F.

### The Rules Governing the A.O.F. Award of Honour

The Australian Orchid Foundation Award of Honour has been created to recognise achievement or contribution to the advancement of knowledge in the broad field that involves orchids in Australia.

A member of the foundation may nominate a person, and must be supported by two other members.

Each nomination must be accompanied by a citation to support the outstanding service or achievement.

A maximum of three awards may be made in any one year. It is not obligatory that three awards will be made, criteria exist to cover worthy nominations that may be forthcoming.

Nominations with the appropriate documentation shall be in the hands of the AOF Honorary Secretary by 30th June 1987.

Successful awards will be announced at the A.O.F. Annual General Meeting in 1987.

A board of referees comprising 10 persons will determine the successful nominations.

Each director shall be a member of the board, the remaining members will be filled by A.O.F. members, to be selected.

All eligible nominations will be distributed by mail to each referee for study and determination.

The nominee must obtain a minimum of 70% of the votes to be eligible for the Award of Honour to be considered.

If a referee has been nominated, that referee shall not take part in any discussion for that particular year.

Another member of the A.O.F. shall be invited to become a substitute referee for this year of selection •



## Triumph of A.O.F. Seed bank

The Australian Orchid Seed Bank was the first orchid seed bank established in the world, and its success is now gaining international recognition. Other orchid bodies are following suit, and it has been supported in Kew publications.

An article on seed banks in the March issue, 1986, of the *American Orchid Society Bulletin* states "The most famous . . . is that of the Australian Orchid Foundation."

It is a measure of success that some orchid nurseries are advertising seedlings for sale produced from seed obtained from the A.O.F. seed bank.

Imported species are becoming harder to get, and those that do arrive are increasing in cost. Other exotic species are prohibited

imports due to Australia being a signatory to the Convention on International Trade in Endangered Species (CITES). Even many of those which can be imported now are endangered by habitat destruction.

Owners of any good species plant can contribute to conservation by selling it and supplying seeds to the bank. Seed can be wrapped in plain paper, labelled, and sent to the honorary A.O.F. Seed Bank Curator, Mr Edhard Husted, 81 Darvall Road, West Ryde, NSW 2114.

Growers should send to Edhard for a current list of available seed. If you don't flask yourself you can get a laboratory to do it for you. (Labs advertise in A.O.R.)

A small charge is made to cover costs and a small amount for A.O.F. funds •

## PRODUCT REPORT

### Gewa fertilizer proportioner

The Gewa proportioners, made in several sizes including a small one which can be used with a garden hose, enables extremely accurate fertilizing with minimum effort. The small model is available with or without valve settings. Without a valve the proportion is 1:100, quite adequate for the hobby grower. With the optional valve the feed ration can be adjusted. It can also be used for fungicides and insecticides.

A minor drawback with the Gewa is that the concentrate must be completely soluble in water, otherwise there could be risk of a blockage in the outlet valve. •



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# CERATOBBIUM DENDROBIIUMS

by Marj Purnell



*Den. 'Green Antelope' x D. lasianthera* Photo: Kirkwood Orchids

A cross made by Eunice Kirkwood about 1964. The 'Green Antelope' could be the rare green form of *D. tangerinum*. Mrs Kirkwood made two collecting trips to New Guinea in the 1960s.

I know they are now named *Spatulata dendrobiums*, and that the names are supposedly synonymous, but I much prefer to call my favourite orchids by their original and more readily recognisable name.

Besides, it sounds better . . .

Growing and flowering them is easy; they are as tough as old boots and if one bears in mind their cultural requirements, and especially their natural habitats, they will provide a glorious display in spring and summer, especially.

The majority, though not all, are from the tropical coastal lowlands almost at sea level, though in New Guinea there are exceptions which thrive at higher altitudes and which may, in the future, if the species can be obtained, provide hybrids that will grow in the cooler areas of Queensland.

*D. crispilingum*, *D. magistratus*, and *D. cochliodes* prefer cooler, less humid climates, and may prove useful. However, the

most hardy and easily grown are the coastal species that enjoy high rainfall (up to eight metres of rain a year, which is a lot of water!) and bright hot sunlight all year round. Most of the rain falls at night; by early morning the sun dries out the plants, which, being epiphytic, have no root-rot problems.

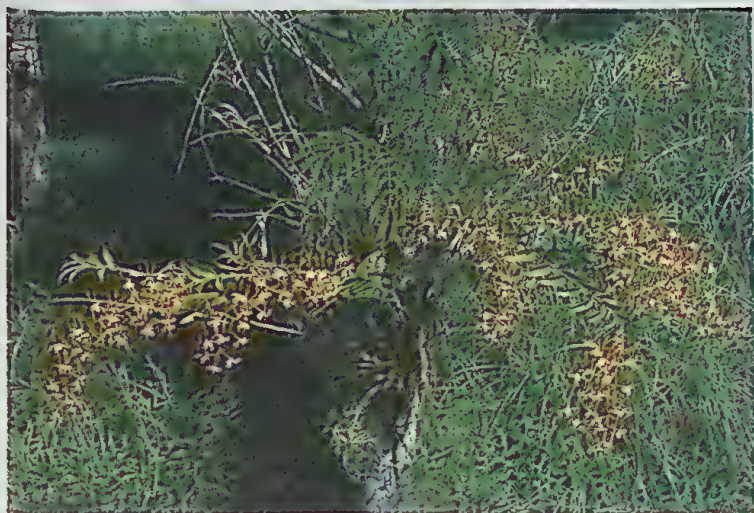
Temperatures range from 22°C to 28°C and humidity is very high, almost at saturation point, and this the ceratobiums really enjoy. So growers will get good results if they can provide ample water, high humidity, good light, "no wet feet" orchid pots and good medium, plus regular feeding.

Species ceratobiums from New Guinea do quite well in North Queensland though, like all their relatives, they loathe cold, especially cold winds, and will defoliate in winter if they are cold and wet. I find a clear fibreglass roof essential in Mackay. Extreme cold in short snaps will cause the budding spikes that appear in late winter

*Den.* Alan Mann

A cross of *D. lasianthera* and *D. Caesar* registered by Hermon Slade in 1970. This plant was growing in the McKillop collection on Bougainville Island.

Photo: Ronald Kerr



*Den. tangerinum* Cribb  
Growing on Bougainville  
Island, New Guinea.  
Photo: Ronald Kerr

here in some ceratobes, to semi-abort. The result is short spikes and fewer flowers.

Breeding with our Queensland *Den. discolor* will overcome this to some extent, but results in quite a lot of tan, brown, cream and biscuit flowers in primary hybrids, and the majority of people don't like the colours. Hybridists have been working for years to breed colour into their ceratobes; there are very few species that have super colours. *Den. lasianthera* has, and makes gorgeous hybrids; *Den. nindii* will, too, as will *Den. taurinum*, but both the latter are rather touchy to grow and more so to flower consistently, and this is also a problem with a lot of their hybrids.

Judges, I feel, expect too much at times. It will take years to produce (if ever) the 'desired' plant of small stature, bearing long sprays of numerous large, bright flow-

ers with multiple spikes per plant. One of my favourite gripes is the fact that judges simply don't know their species, and I say this without malice. I do feel it is reasonable to expect judges to have a sound knowledge of species, while judging primary and secondary hybrids especially. They could make allowances for the fact that a good many species simply do not have long spikes of numerous flowers. For instance, *Den. tangerinum* will have 15 to 20 flowers at most, often less, in our climate.

*Den. lineale* has 20 to 25

*Den. nindii* 8 to 20

*Den. mirbelianum* 12 to 15

*Den. schulleri* 8 to 12

*Den. lasianthera* 15 to 20

*Den. conantherum* 15 to 20

*Den. antennatum* 8 to 12

*Den. robustum* 12 to 15





*Den. Nindii x D. lasianthera*

Another of Mrs Kirkwood's crosses made in the early 1960s. Not registered.

Photo: Kirkwood Orchids

in good conditions in their natural habitat. *Den. canaliculatum* has a lot more. Its hybrids are delightful but almost always are small to medium sized on quite long spikes on small plants.

*Den. tangerinum* will bring the plant size down in its hybrids, but the flowers are again smaller and fewer than many other species and their hybrids.

Hawaiian hybrids are lovely, but in an effort to infuse colour the plants suffer from lack of stamina. A cold snap will cause them to fall down stone dead, not just defoliating like a lot of *ceratobes*. This is due, I feel, to too much *Phalaenanthus* blood that does not like cold.

All this sounds rather like a tale of the miseries, but people complain that while they love *ceratobes*, "the plants grow too tall, and don't have umpteen spikes of thirty or so brightly coloured whopping big blooms on long straight spikes". My reply is that the good Lord hasn't seen fit to achieve all these desirable characteristics yet, so it is a bit hard to expect me to do so — but I'm still trying! •

G Holmes

Beaconsfield, North Mackay 4740

## WORTH QUOTING

"The evolutionary adaptation of orchids which provide for an adequate supply of moisture should not be taken lightly since they also affect horticultural practice."

Poole and Sheehan in  
*Orchid Biology II*. Ed. J. Arditti.

"All flesh is grass, yet today many of us live with our roots so far removed from agriculture that this oft-quoted statement has little real meaning."

David Bellamy in *Botanic Man*.

"*Lycaste skinneri* seems about to have as great a future as the tulip."

*Gardeners' Chronicle* (1861).

"The relation of man and plants is a natural one. Both are real and every place which is a garden, or garden-like helps to preserve reality."

Carlton Lees in *Gardens, Plants and Man*.

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S407	Paph. Peg Samuel (bellatulum x praestans) .....	\$9.00
S410	Paph. haynaldianum x curtisii .....	\$10.00
S282	Paph. elliottianum x lawrenceanum .....	\$10.00
S303	Paph. chamberlainianum x rothschildianum .....	\$10.00
S345	Paph. primulinum x rothschildianum .....	\$10.00
S414	Paph. St. Swithin x bellatulum .....	\$10.00
S416	Paph. rothschildianum E/FCC x bellatulum .....	\$10.00
S417	Paph. supersuk x rothschildianum .....	\$10.00
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S424	Paph. Paph. Delrosii x primulinum .....	\$9.00
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# Society News

## Last October was a busy month!

The Tasmanian Orchid Society staged its 1986 Spring Show in the magnificent Hobart Town Hall. By way of a break from tradition, judging was carried out in a well co-ordinated exercise by a trio from our North West Tasmanian judging panel. The two female members of the triumverate had also undertaken the judging of the Scottsdale Orchid Show a few days earlier. Grand Champion was *Cym. Levis Duke* 'Bella Vista' grown by Alec and Joan Streatfield who also carried off Most Pre-eminent entry with a beautifully grown *Brassia verrucosa* with blooms measuring 32cm from top to toe.

Reserve Champion went to Dr Penny McCartney's *Cym. Arunta* carrying three large spikes of well shaped blooms.

Show theme was "Orchid Fantasy" and Champion Display went to Chris and Phyl Nicholas for their "Space Odyssey".

A major talking point of the show was a well flowered specimen, *Dendrobium speciosum* grown by John and Bev. Woodward of Troweena Orchids, awarded a Certificate of Cultural Commendation.

The next assignment was a 15m<sup>2</sup> display at the Eastlands Shopping Complex from 13-18 October. This proved to be a terrific crowd pleaser when first introduced last year and this year produced the same enthusiasm.

The Society for Growing Australian Plants staged its biennial display at the Tasmanian University from 16-19 October and once again we mounted a display of Australian native orchids.

Next step was the setting up of another 15m<sup>2</sup> display at the Royal Agricultural Show, held 22-25 October. As with our Spring Show and the Eastlands display, the display was manned by dispensers of orchid cultural information at all times.

Our 5th annual Orchid Workshop, designed to assist the veriest novice, was held on 9th November.

Chris Nicholas

## ORCHID DALLIANCE IN ROCKHAMPTON

The Rockhampton Orchid Society Orchid Dalliance weekend is to be held in Rockhampton from 2 to 4 May.

The R.O.S. information kit spells out the programme plus accommodation and tourist guide to Central Queensland.

The \$35 registration fee closes on 31st March. (It includes a Dinner/Dance with lavish smorgasbord, Sunday lunch, and morning and afternoon teas, plus bus touring of orchid collections.) After 31st March the fee is \$40.

For information contact the Secretary, Rockhampton Orchid Society, P.O. Box 5949, Rockhampton Mail Centre, Q. 4702.

## Brisbane OS Charity Show

Brisbane Orchid Society is renowned for the quality of its Autumn Charity Shows. This year the Show will be held at the Queensland School for the deaf on Saturday 4th and Sunday 5th April. The school is in Cornwall Street, Dutton Park.

There's a bumper schedule, including a special prize for the largest orchid exhibited. Don't leave that big specimen languishing at home — get your neighbour to help you lift it if you can't manage it yourself.

This is the society's 15th charity show. The previous 14 have raised a total of \$29,220 for charity. A splendid effort worthy of your support.

## Well earned reward

Lorna Dodd has been made a Life Member of the Orchid Society of W.A. Lorna has been a popular personality during the long period she has been a worker for the society. She joined the committee in 1974 and has been on it ever since. She was Assistant Secretary for the 5th Orchid Conference and did a sterling job, shouldering most of the work while the

# Society News

Conference Secretary was absent on other duties. She was Secretary of the society from 1978 to 1980, and again in 1985/86. She is an influential member of the Womens Auxiliary.

With the presentation of the Life Membership Badge went the sincere thanks and congratulations of members.

## Sea of colour in Midlands Show

The Midlands Orchid Society held its 5th annual Spring Show in late October, filling the Library Hall in Castlemaine with a sea of colour. Disas were on display in beautiful colours, grown and flowered by Gary Sobey.

The Pre-eminent prize for the show was awarded to Gary and Chris Sobey for their beautiful display, which incorporated a bubbling waterfall, surrounded by a variety of genera in their various colours. Grand Champion of the Show went to Gordon and Joyce McEwan for their *Cym. Narela* 'Jennifer Gail'. Reserve Champion was awarded to Gary and Chris Sobey of Castlemaine Drive — in Nursery for *Cym. Bullbarrow* 'Maid Marion'.

Five life members were presented with their badges by the society in recognition for the help and advice they have given the society since its inception. Those who received the honours were: Bob Hodgins, Cyril and Ila Hutchins, and Bet and Ian Whitcombe.

Muriel Christmas

## NEW PRODUCT 'Breather Cap' Flasks

Bunzl Medical and Laboratory Products, P.O. Box 24, Seaton, S.A. 5023, have plant culture flasks on the market made of polycarbonate. They are autoclavable, unbreakable, lightweight, and re-useable. Enquire at your usual supplier or at the above address.

## ANTS FARM ORCHIDS

Les Nesbitt in

*Native Orchid Society of SA Journal.*

Soon after the start of the terrestrial growing season I noticed tiny dark brown ants had made a nest in one of my pots of *Diuris longifolia*. I grumbled a bit but took no action, thinking the winter rains would soon drown the ants.

A few weeks later the ants had nests in the two adjacent pots, so I got mad enough to get a can of insecticide and spray the top of the three pots. This had very little effect, and as the weeks went by more and more pots had the ant holes and ant mounds on the surface.

The orchids were still growing happily so I didn't knock any plants out, but I did squirt insect-killer on them from a pressure can from time to time. By September about 30 pots had old or active ant's nests.

I reasoned that it wasn't worth doing anything then because the plants would soon be going dormant anyway. Besides the orchids were flowering and still looked healthy. The plants eventually died down but signs of the ants (which are active at night) were still there.

When I knocked out the pots I discovered that they were riddled with ant tunnels and that each tuber had one or two mealy bugs attached. The ants were farming the mealy bugs and feeding them on my orchids. No wonder they put up with insect sprays since they had a plentiful supply of honeydew from their tame mealy bugs safe below ground level. The ants obviously invaded new pots as the bugs multiplied and needed more food. They were even careful not to overtax each orchid with too many of the sap-sucking bugs.

Needless to say I killed every mealy bug before replanting the tubers. So far the ants have not reappeared in the terrestrial pots. As soon as they do it be a drop of Dieldren in each ant hole. ●



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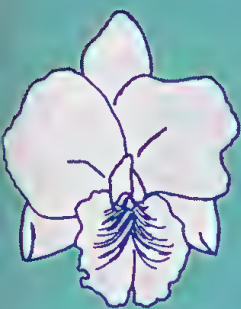
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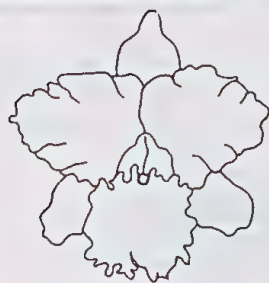
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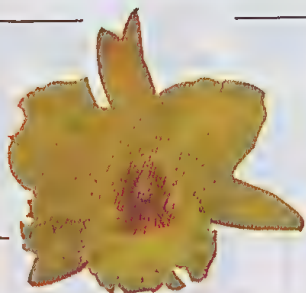
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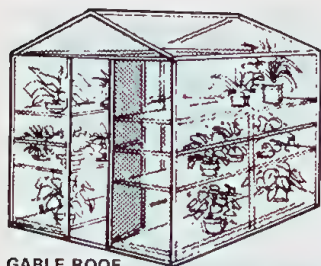
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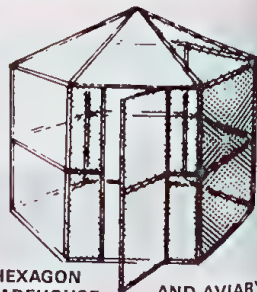
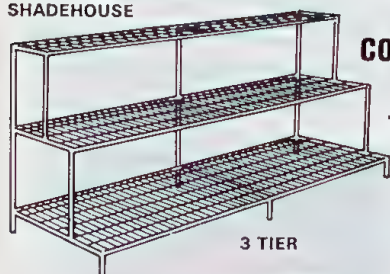


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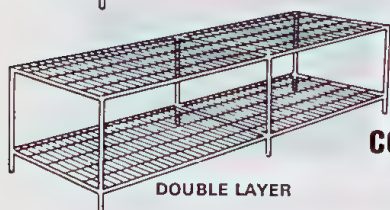
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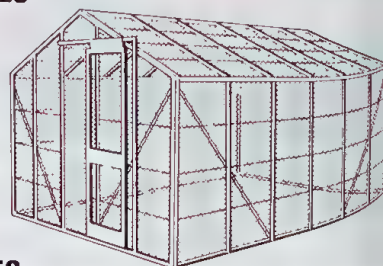
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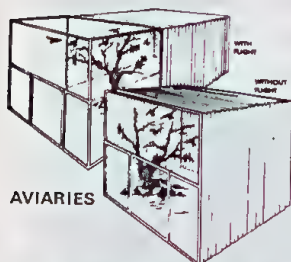
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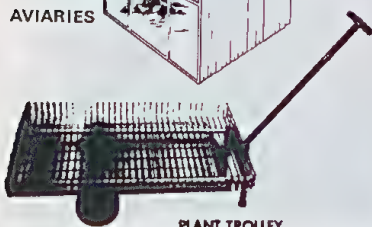


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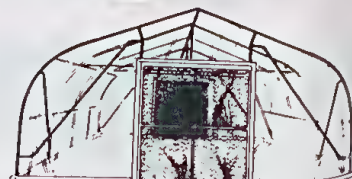
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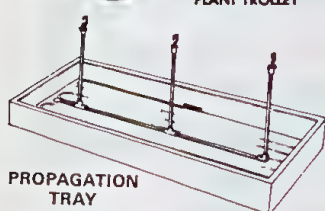
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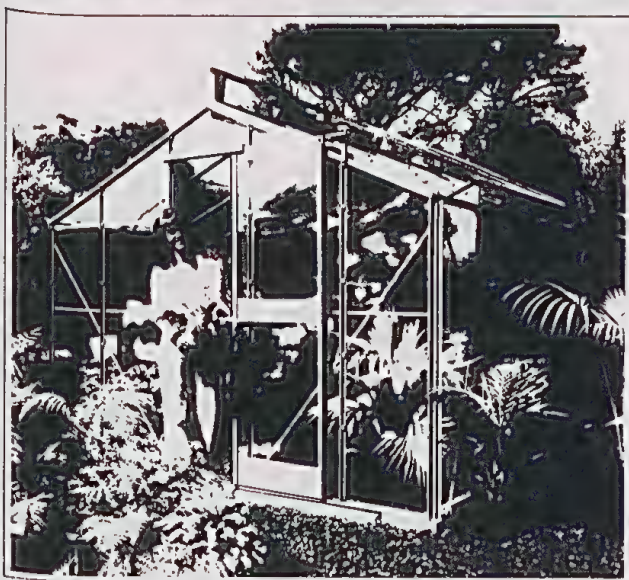
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Phal. Cardinal  
'Zuma Canyon' AD/AOC

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Published and printed by GRAPHIC WORLD PTY LTD

14 McGill Street, Lewisham, NSW 2049 Australia

Phone: (02) 560 6166 Telex: AA127936 Fax: (02) 560 6677.



The publishers of the Australian Orchid Review financially support the Australian Orchid Council.

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# Australian Orchid Review

VOLUME 53<sup>2</sup> — No. 2

WINTER 1987

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The genus *Prasophyllum* is large in number of species and wide in distribution within Australia. Yet few orchid growers know it or strive to grow even the best of its species for even the best are not spectacular. None the less each species is rich in fascinating characteristics. Learn something of them via the pen of master native grower Bob Bates.

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To comply with the International Code of Botanical Nomenclature the whole of a species is in *italics* and the second term has no capital. With hybrids only the first term is in *italics*, the second starts with a capital and is not latinised. Generic names, used in a non-botanical sense do not have a capital nor are they in italics. In society bulletins and on place-cards italics can be indicated by underlining.

Cover photograph from *Proud Prasophyllums* by Bob Bates.

*P. australe*. A swamp loving species from eastern Australia. Colourful beetles are commonly seen on the fragrant flower spikes.



# 6TH ASEAN ORCHID CONGRESS NOVEMBER, 1986

Rosemary Bromwich



Beauties in a cage at the Sixth Asean Orchid Conference. Photo: R. Bromwich.

A group of eleven orchid enthusiasts from the Orchid Society of the Northern Territory and the Nightcliff Orchid Society went to the 6th Asean Orchid Congress in Bangkok during November 1986.

Jenny Cuff and myself were invited to assist with the official judging. We gathered for the Judges' Breakfast at 7 a.m. at the Siam Park where we were welcomed by Professor Rapee Sagarik, George Alphonso, Phoon Yoon Seng of Singapore, and many more old friends.

I was in a team with Mrs Rapee Sagarik judging the Cut Flower Section of both vandas and dendrobiums.

Jenny Cuff joined a team to judge the six exhibits from each country — Malaysia, Singapore, Philippines, Borneo, Indonesia and Thailand. Each country had a large walk-in bamboo "bird cage" for their display, which made a very attractive setting.

After lunch with the other judges, we spent a delightful afternoon looking at and

photographing all the many exhibits. Several acres of the park were covered with shade cloth, with the orchids displayed in tiers and around pools and fountains.

The Kasetsart University ran the seminar at the Dusit Thani Hotel. The seminar was opened by the Minister of Agriculture and senior academics. The university gives massive support to the orchid industry with four hundred students graduating every year in Orchid Culture! Thailand's cut orchid export industry is worth \$US20 million per year.

The lectures were of a very high standard, including:

1. Orchid Propagation Past, Present and Future
2. In Vitro Multiplication of Orchids
3. Disinfestation and Vase Life Extension of Orchids by Irradiation
4. Diploid and Polyploid *Aranda* Hybrids
5. Major Pests of Orchids
6. Conservation of Orchids
7. Semi-terete Vanda Hybrids — etc.

We visited many nurseries. Thailand's hybridising programme is far in advance of even Singapore. Flasks of orchid seedlings are an excellent buy.

T. Orchids staged a separate large display, in honour of King Rama's 60th birthday. The display covered several acres and was most impressive.

As Darwin lies on the same latitude as Bangkok, we felt that we had much to learn from our hosts.

The last few days of our trip we spent in Singapore. The Committee of the Orchid Society of South East Asia kindly invited us to afternoon tea at the home of Yusof Alsagoff. It was good to see old friends and new, and to look at the large orchid collection of our host.

A visit to the Singapore Botanical Gardens was a lovely surprise for us. Dr Kiat Tan has organised replanting of the orchid beds and the Orchid Enclosure has been enlarged, with a waterfall and many new display areas.

Whilst in Bangkok and Singapore we promoted our own Tropical Queensland Orchid Council Conference which is to be held in Darwin over the Queens Birthday weekend in June 1988. Great interest was shown and Professor Rapee Sagarik has offered to come to Darwin to present a lecture at the Conference •

## DOUG'S DELIGHT

Until recently, *paphiopedilums* were not grown widely in North Queensland. However, in recent years, some North Queensland orchid growers have been trying their hands at growing them. They have indeed achieved a great deal of success as can be seen here with a recently-awarded clone of *Paph. St Swithin*.

*Paph. St. Swithin* 'Magnifique' hcc qos.  
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INTRODUCING

## *Miniature Cym. Eliot Haberlitz "Coffee Liqueur"*

A seedling which flowered September 1986, "Coffee Liqueur" will be added to our range of mericlones during 1988. Watch for news of its release.



Our 1987 catalogue features the most comprehensive listing of Miniature and Intermediate Cymbidium hybrids in FLASK ever released, and the list includes crossings capable of flowering from February to May. While many of our 1987 miniature crossings may already be sold out we can still offer a very wide selection of seedlings in flask.

We are gradually introducing a range of miniatures capable of flowering from November through to May and past experience indicates all will be sold out at the flask stage. Be on our mailing list ready for our 1988 catalogue!

For those who are interested in CATTLEYAS, LYCASTES and NATIVE DENDROBIUMS in flask we have separate catalogues for each of these genera. A plant list is in preparation and we will be available shortly.

*FOR CATALOGUES — please contact our agents, or write to us direct.*

OUR AGENTS ARE:

### **South Australia:**

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**Glenwood Orchids Business Hours:**

WEEKDAYS: 10.30 am to 4.30 pm. Strictly by appointment only.

SATURDAYS: 1.30 pm to 4.30 pm.

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# A.O.C. Changes to Judging Standards

**Changes to the cymbidium standards, and to the definition of "substance and texture" for all standards, have been approved by a majority of states and are now operational.**

**Societies should note that although there is now one standard for judging intermediate and miniature cymbidiums this does not mean that they cannot have separate classes in these categories.**

The standard for what are known as "Standard cymbidiums" was amended in a few areas. These are detailed below with explanatory notes.

The standards for "Intermediate" and "Miniature" cymbidiums have been combined into a single "Cymbidium — Miniature and Intermediate" standard. This is also included below together with notes and the reasons why the various amendments/additions have been made.

## CYMBIDIUM — STANDARD

### Shape 30 Points

The prime requirements are that the flowers should be symmetrical, circular in outline, slightly concave and well balanced with broad segments. Preferably the labellum should be wide, fully displayed and not turned under at its distal end. The dorsal should be free from excessive hooding and the sepals and petals free from furling, reflexing and any other distortions.

### Colour and attractiveness 30 Points

Shall include white or any other colour or combination of colours. It should be clear, glistening and fresh, not smudgy or blurred. All markings and shadings shall be well defined and harmoniously distributed. The colour of the labellum shall be considered in assessing the general effect. When assessing colour the qualities of beauty and appeal shall be considered and credit shall be given for colours which are unusual or have special beauty and appeal.

### Size of Flower 10 Points

Shall be measured across the visible limits of the petals. Points shall be allotted in accordance with the scale below.

#### Scale for Size

115mm and over .....	10 Points
110mm and over .....	9 Points
105mm and over .....	8 Points

100mm and over .....	7 Points
95mm and over .....	6 Points
90mm and over .....	5 Points
Under 90mm .....	4 Points

### Substance and texture 10 Points

The flower should be of good substance and texture, firm, fresh, lustrous and without blemish.

### Habit and arrangement of inflorescence 10 Points

The stem shall be sufficiently strong to support the inflorescence unaided. It should be long and may be straight, arched or pendulous but not twisted. The flowers should be evenly distributed and well displayed without turning in, overlapping or bunching.

### Floriferousness 10 Points

Points will be allocated for full open flowers to the scale below. The inflorescence being judged must carry not less than seven flowers.

#### Scale of Floriferousness

13 or more Flowers .....	10 Points
12 or more Flowers .....	9 Points
11 or more Flowers .....	8 Points
10 or more Flowers .....	7 Points
9 or more Flowers .....	6 Points
8 or more Flowers .....	5 Points
7 or more Flowers .....	4 Points

**Notes:** (These are for information to accompany the circulated proposals and not for inclusion in the AOC Judging Handbook.)

- The standard for "shape" has been reworded to outline more positively, primary and secondary requirements, and to express what is important when assessing flowers for awards.
- One minor amendment has been made in the scale for size — 4 points have been allotted to flowers under 90mm whereas previously no points were given.



- C. The word "shall" has been replaced with "should" under "Substance and Texture".
- D. The wording under "Floriferousness" has been amended to delete the current requirement for 80 per cent of the flowers to be open. The general 2/3rds requirement is to apply now. The sub-committee was not aware of the reasons why this particular requirement differs from the general requirement for all other genera and could see no valid reason for its continuing.
- E. The percentage points for shape and colour will apply.

## **CYMBIDIUM — MINIATURE AND INTERMEDIATE**

This standard has been developed to combine the previous Miniature Cymbidium and Intermediate Cymbidium standards. *The whole plant* is to be judged and cut spikes are ineligible. The plant should carry a floral display commensurate with its size. It is to be judged for both display and flower quality.

### **Shape 25 Points**

The prime requirements are that the flowers should be symmetrical, circular in outline, slightly concave and well balanced with segments which are broad for the type of flower. Preferably the labellum should be wide, fully displayed and not turned under at its distal end. The dorsal should be free from excessive hooding and the sepals and petals free from furling, reflexing and any other distortions.

### **Colour and attractiveness 25 Points**

Shall include white or any other colour or combination of colours. It should be clear, glistening and fresh, not smudgy or blurred. All markings and shadings shall be well defined and harmoniously distributed. The colour of the labellum shall be considered in assessing the general effect. When assessing colour the qualities of beauty and appeal shall be considered and credit shall be given for colours which are unusual or have special beauty and appeal.

### **Floriferousness of inflorescence and plant 15 Points**

The whole plant should show free flowering characteristics and should have

several inflorescences preferably evenly distributed. The number should be in proportion to size of the the plant. Each inflorescence should have 13 or more flowers.

### **Flower arrangement 10 Points**

The arrangement of the flowers on the inflorescences must be pleasing and a fair proportion must be visible. The flowers should not turn in, overlap or bunch.

### **Substance and texture 10 Points**

The flower should be of good substance and texture, firm, fresh, lustrous and without blemish.

### **General appearance and charm 15 Points**

The plant must be distinctive, attractive, and pleasing to the eye. The floral display must be in proportion to the size of the plant. The inflorescences are to be sufficiently strong to support themselves unaided and long enough to display the flowers away from the foliage. They must be straight, arched or pendulous but not twisted. The foliage should be pleasing and without blemish. Grooming, tying, excessive trimming of leaves or other interference with the foliage are not acceptable.

The rules concerning percentages of assessment for shape and colour shall not apply.

**Notes:** (These are for information and not for inclusion in the AOC Judging Handbook.)

- A. The merging of the "Miniature" and "Intermediate" standards into the one standard is intended to overcome the problems that have been evident with the existing arbitrary 60mm "barrier" between the two types — particularly at the show bench level. When combined with the discontinuation of the current 90mm upper limit on size under this category and the introduction of the statement that each inflorescence should have 13 flowers, there is a smooth transition between the two standards.

Judging of "Miniature and Intermediate Cymbidiums" at shows will be under the same criteria; however, societies will still be able to nominate additional divisions within this general

class, e.g., up to 60mm and greater than 60mm etc. It will be the responsibility of clubs to make these divisions and bench plants accordingly. Judges will use the same standard irrespective of flower size. This particular point is stressed to all societies.

- B. The main purposes in breeding what we have termed "Cymbidium — Miniature and Intermediate" are for quality of flower and also for display. Therefore the whole plant must be judged.
- C. Under "Floriferousness" and "General Appearance and Charm" it will be noted that the emphasis is on number of inflorescences in proportion to size of plant with each inflorescence carrying a balanced number of flowers.
- D. Where a particular clone is deemed not to fit either of the new standards, it can be judged under the "General Standard".
- E. The sub-committee, in developing this standard, has been conscious of the advances made by hybridists with "miniature and intermediate" cym-

bidiums and has assessed criteria accordingly, e.g., "the whole plant should show free flowering characteristics".

- F. A section has been added under "General Appearance and Charm" to cover many instances of interference with the foliage that have been evidenced over recent years, e.g., the rolling and tying back of foliage. The points previously allotted to foliage (5) have been included to emphasise the importance of foliage.
- G. The term 'broad segments', under "shape", for "Cymbidium — Miniature and Intermediate" is a relative term; primary hybrids involving the species *pumilum* would not be expected to have segments as broad as those for more advanced *pumilum* hybrids.
- H. This standard is not designed to be applied to specimen plants of the "Cymbidium — Standard" type.
- I. Shape and colour criteria are basically the same as for the revised "Cymbidium — Standard" outlined earlier •



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## CYMBIDIUM FLASKS

### Mericlones and Seedlings

We are cloning over 250 varieties of miniature, intermediate and standard cymbidiums.

Many are available now priced at **\$20 per flask of 10**. We also give bonus flasks (one per five) and free delivery in Australia for ten or more flasks.

Colchicine-treated mericlones are now available in tens for the same price.

Seedling flasks, unless limited, are priced at \$15 per flask of ten.

Write or phone for our latest descriptive catalogue and deflasking instructions.

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## PAPHIOPEDILUMS — AUSTRALIAN NATIVES

### ARE YOU ON OUR MAILING LIST

If you are, you will have received a copy of our 1987 flask listing. If not, it is available post free on request.

All serious growers of Australian natives and their hybrids &/or Paphiopedilum species, primaries, novelties or complex hybrids should have a copy.

All of the listings are of high quality and top potential.

*Disa uniflora* We currently have stocks of flowering size seedlings of this popular South African terrestrial available. A wide range of colours is expected and stems should be tall. (They are being grown as a mixed group so we cannot select individual colours.) All are expected to flower next summer.

Price is \$15 each plus \$8 per order for Skyroad freight.

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# AOF MINI SPECIES FLASKS

## How rare is rare?

The response to the AOF mini species flasks has been terrific. About 130 species are available, many of them rare, some impossible to import, and others it is still possible to import but at ever increasing costs.

A devalued Australian dollar, plus packing charges, air freight, export documents, quarantine certificates, all charged in US dollars will result in substantial price rises in 1987.

In Australia 126 orchid species are listed as endangered out of a total of nearly 700 (See *Rare and threatened plant species* published by National Parks and Wildlife Service, Canberra). The situation is worst in more populated countries.

Local quarantine and inspection fees are no longer cheap, the latter being charged both at entry and after quarantine. So it is good logic to seed propagate as many available species as possible. Burleigh Park Nursery has been doing this for over 20 years, and for over a year has been providing mini flasks from which the nett proceeds go to AOF funds.

You may choose from the following list, and/or send for a full list. Flasks contain a minimum of 12 seedlings and are priced at \$12.00 each. Delivery is by fast Skyways air freight at a cost of \$7.50 for up to ten flasks. See address below.

Plants listed are coded C for cold, I for intermediates, and W for warm growing.

*Elophia decaryiana*. IW. Very showy with a 60cm spike of 5cm green and red flowers. Bulbs are above compost. Attractive foliage. Madagascar.

*Renanthera imshootiana*. CI. A beautiful species from India. Yellow petals, spotted red, and blotched on end of petals. The large broad lateral sepals are bright glittering scarlet red. Lip is also scarlet red.

*Oncidium cebolleta*. I. Costa Rica. A terete leaved species with yellow flowers, spotted brown. A fast grower.

*Jumellea major*. IW. Madagascar. A fan shaped plant. Carries erect spikes of

crystalline, sparkling white flowers of lovely shape, 5cm wide and fragrant.

*Oeoniella polystachys*. W. Madagascar. Very rare. Angraecum type fragrant green and white flowers.

*Dendrobium bigibbum*. Album x Album. W. The crossing of two sparkling white Cooktown orchids. A protected species.

*Dendrobium albosanguineum*. I. Burma. Rare. A small growing softcane with 8cm ivory white flowers, white with two maroon blotches on lip.

*Cattleya maxima*. I. Colombian Andes. Very large flowers to 15cm across. Soft pink to dark purple with a lip blotched and veined yellow and cream.

*Cattleya porphryoglossa*. IW. Brazil. Somewhat like *C. granulosa*. Yellow flowers with some fine spotting of red. Lip bright purple.

*Cattleya dowiana* 'Aurea'. IW. Costa Rica. Rare. It has large yellow flowers, the lip veined purple.

*Broughtonia sanguinea*. IW. Jamaica. A small grower with tall spikes of rose red flowers about 25mm across.

*Dendrobium tangerinum*. IW. New Guinea. Tall twisted antler-like sepals of clear orange. Petals and lip dark chocolate with a blue patch on the lip.

*Aerides krabiennse*. W. From Gulf of Kra, Thailand. Dwarf growing with cupped crystalline pink flowers.

*Angraecum sesquipedale*. I. Madagascar. Darwin's famous orchid with waxy 12cm creamy white flowers with massive spurs.

*Manadenium labiosum*. I. Brazil. Allied to *Zygopetalum*. Extremely rare. Large handsome flower on small plant. Sepals and petals a green-yellow suffused pink. Lip white with prominent violet or dark red callus and veins.

To order. Send direct to Ian and Pat Walters, 1419 Ross River Road, Kelso, Townsville, Queensland 4815. Do not send money but wait until notified flasks are ready •



# A PARCEL OF COOL GROWERS FOR THIS TIME OF YEAR

MS466 *Phaius australis* 'Bernasii' x Self

This yellow form of our native *Phaius* has been very hard to get for a long time now. .... \$7.00 in 3" Tubes.

## Softcane Dendrobiums

RD230 Den. FELICITY FORTESCUE 'Elizabeth' x HOSHIMUSUME 'Haming' Large well shaped flowers — pale pinks to creams. .... \$7.00 in 3" pot

RD 235 Den. FELICITY FORTESCUE 'Elizabeth' x YUZUKI 'Royal. Very prolific flowering — pale pinks to white. .... \$3.50 in 2" pot

RD250 Den. FELICITY FORTESCUE 'Elizabeth' x AKATUKI 'Queen' Quality whites to pastels ..... \$3.5 in 2" pot

**Paphiopedilums** Exhibition Type ..... \$7.00 in 3" pots

RD204 Paph. (JAMAYCUS x PERSONALITY) x (AMANDA x DAZZLER) Mainly reds, but some could be spotted

RD205 Paph. AMORRA 'No. 8' x SAMARKAND Nice pastel greens

RD206 Paph. (BELLRINGER x MILLMORE) x (WORLD VENTURE x PAEONY) 'Regal Venture' Large spotted type on long stems.

**Mini Cymbids** ..... \$5.00 in 4" pots

RD228 *pumilum* 'Tetsegetses' x BALTIC 'Lee Ann Sessions' Upright spikes of intermediate size flowers in pale to deep pinks.

RD256 LITTLE BLACK SAMBO (*canaliculatum* 'Sparksii x *madidum*) Long pendulous sprays of flowers about 1.5cm. Colour from green to dark brown.

**Stanhopeas** ..... \$3.50 in 2" pots

RD257 BELLAERENSIS (*oculata* x *insignis*) Medium sized yellow flowers, up to 6 on the stem. Some will be more spotted than others.

RD272 *oculata* x Self. Medium sized yellow flowers with circular markings in deep crimson

RD266 *peruviana* x Self. Medium sized flowers, apricot yellow with dark eyes in centre.

# mackinnneys'

## nursery

87 TURTON STREET, SUNNYBANK, QLD 4109  
CLOSED SUNDAYS. PHONE: 345 1916



# Composts, fertilizers, and pest control

These composts are designed for cymbidiums but may suit other genera. Large bulk mixing of compost, as quantities below, is necessary for the ingredients to blend and achieve satisfactory bacterial action.

## COMPOSTS:

Basic compost — used mainly for seedlings; (*per .75m<sup>3</sup> of mix*)

1 part Peat Moss

1 part Sand

To this add: 500g iron sulphate

3.40kg lime

500g potassium nitrate

1¼kg magnesite

1½kg superphosphate

Basic U.C. Mix for mature cymbidiums

No. 1. (*per .75m<sup>3</sup> of mix*)

1 part sand

1 part peat moss

1 part sawdust

To this add: 500g iron sulphate

3.40kg lime

1-2kg U.F. 38 urea

500g potassium nitrate

1¼kg magnesite

1¼kg superphosphate

Cheap U.C. Mix for mature cymbidiums

No. 2. (*per .75m<sup>3</sup> of mix*)

1 part sand

2 parts sawdust or shavings

To this add: 500g iron sulphate

3½kg lime

2-4kg U.F. 38

500g potassium nitrate

1kg magnesite

To this add: 1½kg superphosphate

C.P. Mix: (*per .75m<sup>3</sup> of mix*)

2 parts pine bark (treated)

2 parts "Dents" compost

4 parts wood shavings

4 parts sand

To this add: 500g superfine superphosphate

500g magnesium carbonate

500g gypsum

500g dolomite

500g iron sulphate, or iron oxide

## FERTILIZERS

Aquasol, Orchidol, Zest, Thrive, Nitrosol, Fish Emulsion, Campbells "A".

Autumn-Winter:

Zest, vegetable formulation, Peters' Blossom Booster, Campbells "B".

Slow release fertilizers:

Spring-Summer

Nutricote N16 P4.4 K8.3

Autumn-Winter

Nutricote N13 P5.7 K9.1

Spring-Summer

Osmocote N19 P2.6 K10

Autumn-Winter

Osmocote N14 P6.1 K11.6

## Mix your own fertilizer

For small collections the under-mentioned quantities can be divided by ten. For example for Fast Growth below, instead of 250g use 25g, 22 or 23g of nitram is near enough, and 3g of mag. sulphate will do.

Fast Growth — Spring — early Summer.

250g potassium nitrate

226g nitram

28g magnesium sulphate

Mix with 450 litres of water

Summer feed No. 1:

340g potassium nitrate

85g nitram

85g magnesium sulphate

Mix with 450 litres of water.

Summer feed No. 2:

255g potassium nitrate

226g mono ammonium phosphate "MAP"

113g urea 46%

Mix with 450 litres of water.



**Summer feed No. 3:**

283g ammonium nitrate  
 85g diammonium phosphate  
 198g potassium nitrate  
 Mix with 450 litres of water.

**Late Summer — spike initiation Feed No. 1**

226g ammonium phosphate  
 226g potassium chloride  
 Mix with 450 litres of water.

**Late Summer — spike initiation Feed No. 2**

340g potassium nitrate  
 170g mono ammonium phosphate "MAP"  
 42g urea 46%  
 Mix with 450 litres of water

The above fertilizers can be used at every second irrigation. Trace elements must be added.

**PEST CONTROL**

**Miticides:** To control two spotted mites:  
 Neoron, Kelthane, Torque, Mitacron,  
 Morestan, Morecide, Plictrum Omite.

**Scales:**

Supracide, Temik, White Oil.

**Aphid, Caterpillars, Thrips, Bugs, Beetles and Mites:**

These can be controlled with one of the following, but it should be noted that Two Spotted Mites can build up an "OP" resistance to most of the following sprays:

Supracide, Nuvacron, Lannate, Malathion, Roger 40, Metasytox, Sevin, Gesapon, Gusathion, Phosdrin, Nuvan, Folimat, Folidol, Dicron.

**Slugs and Snails:**

Measurol, Baysol, Supracide.

Plants in glass house may be sprayed with W.P.'s if mite out breaks occur.

**Wettable Powders:**

Pentac, Maldison 50WP, Lannate, Kelthane WP.

**Glass House Fumigation:**

70g Nuvan — Mix in 23 litres of water per 283 cubic metres of glass house space.

**FUNGICIDES****Broad Spectrum:**

Dek, Thiram (TMTD), Zineb, Mancozeb, Maneb, Lime-sulphur, Consan, Natriphene, Alisan, (Note: Captan is no longer available).

**Bulb Rots:**

Terrozone, Dexon, Previcur, Fongarid, Ridomil.

If using Previcur for seedlings, use as follows: Mix 30mls in 20 litres of water. Drench pot at rate of 100mls per 10 centimetres of pot width. Mature plants, mix 30mls in 10 litres of water. When using Fongarid or Ridomil, use as follows, also as a drench:

Mix 1g in 1 litre of water

**POT SIZE****DRENCH**

76mm	40mls of solution
101mm	75mls of solution
152mm	150mls of solution
203mm	500mls of solution
250mm	1 litre of solution

Spotting on flowers (*Botrytis cinerea*).

Rovral, Dicloran, Benlate, Bavistan, Topsin, Afugan.

**STERILIZATION SOLUTIONS**

For cleaning pots, cutting tools and washing down benches, etc, use Wescodyne®, (iodaphor) — 600ml per 100 litres of water. For the sterilization of cutting tools, also for washing hands after handling virus infected plants — make a 3% solution of Tri-Sodium Phosphate. Wash hands in solution and then soap and water. It is extremely difficult to remove virus entirely from sap-engrained hands, but Broadbent (1963) found the above solution quite effective.

Dr Wesley Davidson recommends the following solutions and times:

Let cutting tools remain in 2% sodium Hydroxide for ½ minute, 15% tri-sodium phosphate for 15-30 minutes and 5% clorox for 5-10 minutes.

**CULTURAL REQUIREMENTS****Temperature:**

Keep below 90°F. Preferably 75°-80°F day temperature. Minimum night tem-

perature can go as low as 45°. Spike initiation temperature must drop below 55°F. Starts approximately 15th February for mid-season flowers.

#### Light:

Can tolerate up to 8,000 foot candles. Around 4,000 foot candles being about optimum.

#### Photosynthesis Rates:

Starts at 6°C

62°F = 60%, 70°F = 83%, 80°F = 100%

90°F = 80%, 100°F = 40%, 110°F = 0%

#### Respiration Rates:

Starts at 40°F

60°F = 28%, 70°F = 40%, 80°F = 50%

90°F = 65%, 100°F = 75%, 118°F = 100%

### WOOD RESIDUAL TREATMENTS

Pine bark, sawdust and wood shavings should be treated before use.

One of the following methods can be used:

1. Mix 7kg of Urea-Formaldehyde to one cubic metre of pine bark.
2. Mix 2.6kg of Urea to one cubic metre of sawdust.

If you wish to use a sawdust-sand potting mix, use the second treatment rate (2.6kg/-cu. metre). Mix one part of treated sawdust to one part sand. To this add: Superphosphate 1.5kg, Dolomite 9.0kg, Potassium sulphate 500g, Copper sulphate 100g, Zinc sulphate 30g, Manganese 30g, ferrous sulphate 60g, Boric acid 1g, Ammonium molybdate 1g. per cubic metre of mix.

3. To each cubic metre of bark-shavings or sawdust add; 90 litres of water, 2.6kg of Urea, 3.0kg Superphosphate (fine) 18.0kg Dolomite, 1.0kg Potassium sulphate.
4. To each cubic yard of bark add; 4lbs Urea, U.F. 38, 2lbs triple superphosphate, 10lb dolomite, 1lb iron sulphate.

### SELECTIVE WEED CONTROL IN ORCHIDS

Tenoran® 8kg, Prolect/hectare, Gesatop® 500F.W., 1-2kg a.i./hectare×2.4ml flowable Gesatop per 10m<sup>2</sup>.

Chemicals that can be used if using a integrated biological control of mites.

MITES: Omite-Mitacron Plictram Torque.

THRIPS: Gesapon, Thiodan, Endosan.

SCALES: Gesapon, White oil

APHIDS: Pirimor, Thiodan

MEALYBUDS: Gesapon

CATERPILLARS: Dipel, Thiodan, Gusathion

DENDROBIUM BEETLE: Gusathion, Supracide — with caution — spot selection.

#### Fungicides:

Difolitan, Delan, Melprex, Dithane 45, TMTD, Zineb, Ziram.

#### Botrytis:

Rovral, Ronilan, Sumiselex, Bravo, Carbamult

BENLATE, TOPSIN cannot be used!!

#### Bulb Rots:

Ridomil, Fongarid, Difolitan

#### References:

Hampshire, Frank: *Evaluation of Herbicides for Selective Weed Control in Orchids*

Hara: *The Flora of Eastern Himalaya*

Kerr, R: *The Johnson Formula*, Orchid News Vol 9 No 4.

Lee, B: *The Management of Mites in a Cut Flower Orchid Nursery*. Australian Horticulture Feb, 1984.

Poole, Seeley: *Mineral Nutrition of Orchids*. Orchid Biology II edited by Professor J Arditti.

Rentoul, J: *Growing Orchids 1*.

Also notes on Flora of Ramikung, Flora of Nagarjun, Forests of Nepal — Stainton.

Please try any product on a few plants before using on a whole collection. Phytotoxicity can occur at any time ●

### AUSTRALIAN NATIVE TERRESTRIAL ORCHIDS

Available as .

**DORMANT TUBERS — November-February**  
**BARE ROOT PLANTS — May-July**

Easily grown species from a range of genera including Acianthus, Caladenia, Chiloglottis, Corybas, Diuris, Microtis, Pterostylis and Thelymitra.

Send SAE for listing and cultural notes.

**L.T. & M.K. NESBITT**

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# Bri-Elen Park Orchids

**PHONE (076) 30 8220**

**Highfields Rd., Highfields or  
M.S. 582 Toowoomba 4350**

First release of some exclusive Cymbidium Mericlones. The following are in limited supply having only mericloned between 150-200 of each clone.

The following plants are priced at 4" pots \$15 each min. 250mm leaf length; 6" pots \$20 each min. 400mm leaf length.

*A.O.R. special offer all three 4" pots for \$40 or all three 6" pots for \$55. Plus \$9 Skyroad freight. All plants sent bareroot*

## **Susan Martin 'Bri-Elen Park'**

A champion yellow with red lip, won Best Seedling, Best Yellow Champion Cymbidium and Champion of the Show when first shown. 4" and 6" pots.

## **Red Hill 'Braeburn'**

A show winning tan — mericlones from the original plant from Mr Nev Douglas — won a gold medal in Singapore last year on first showing outside Queensland. 4" and 6" pots.

## **Burgundian 'Bexley'**

Show winning pink, mericlones from the original plant from G & J Bloodworth which won Champion Cymbidium at the Australian Orchid Conference in Brisbane 1982. 4" pots only.

## **Lisa Rose 'Pink Perfection'.**

A beautiful pink which has yet not been shown. 6" pots only.

*The following four clones are ex 100mm pots @ \$15 each. A.O.R. Special offer all four @\$40. Plus Skyroad freight \$9.00. All plants sent barefoot.*

Miniature and Intermediate Cymbidiums which as yet have not been shown.

## **Changing Times 'Alderley'**

Upright polychrome — off white with green and pink overlay.

## **(Pumilum x Wallara) 'Adavale'**

Yellow with red labellum.

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# BOOK REVIEW

## Orchid Biology — Reviews and Perspectives IV

EDITED BY PROF. JOSEPH ARDITTI.

Cornell University Press, 124 Roberts Place, Ithaca, New York 14850, USA

Cloth cover, perfect binding, 349 pp.  
Price \$US60.50

This fourth volume in a series which covers orchid science at its frontiers is a significant achievement. Many important developments in plant biology have taken place, and are taking place, in experiments on orchids.

The editorial format of volume IV follows the pattern of the previous ones: An opening chapter of general interest to all orchid growers, then chapters by specialists researchers, and an appendix dealing with a very practical aspect of orchid growing. Appendices in the first three volumes dealt with tissue culture; seed germination and seedling culture; and chromosomes. This volume deals with orchid diseases and has been written by Dr Geoffrey Hadley, Mastura Arditti, and Joseph Arditti.

These first and last sections in each volume have special interest and application for orchid growers. This extends to the other chapters but inexperienced growers may not readily perceive them unless they set out to study them. We can all enjoy and grow orchids without knowing the inner secrets of orchid cells. However, we must not forget that expanding our knowledge provides an increasing dimension of understanding and appreciation of the world of nature into which orchid growing has led us.

A new feature in this volume makes reading it easy for the novice grower with the urge to know: Each chapter has its own glossary.

Plant biology scientists will revel in this book. The hobby grower can use it to increase his own understanding.

The general interest chapter is by George Alphonso, for many years curator of Singapore Gardens. It brings to life all those people who have made Singapore so significant orchidwise, the botanists, scientists, gardeners, and hobbyists. Such men as Ridley, Laycock, Holttum, Corner, and members of the South-East Asia Orchid Society. The good luck too in having a distinguished and sympathetic Japanese, Prof. Kwan Koriba, as director of the Singapore Gardens during the war years.

The chapters cover: *Major patterns and processes in orchid evolution* by Prof. David H. Benzing; *Pollination in Orchids and related genera — evolution from reward to deception* by Dr Amots Dafni; *Orchid stomata*, by Dr Hanne Rasmussen; *The velamen and exodermis of orchid roots*, by Dr M Pridgeon; *Development of pollen and accessory structures*, by Prof Edward C. Yeung; *Respiration in orchids*, by Prof. Choy Sin Hew.

Diverse as the above chapter headings appear to be they have a strong connecting link: evolution. The philosophical import of this volume and its previous ones lies in the relationship shown between genera and the factors influencing their development.

The electron micrographs in the book are but one example of orchid biology and taxonomy keeping pace with modern technology. The optical microscope of a hundred years ago could only reveal a glimmer of the story, little or nothing was known of cell structure, pollination, ploidy, or metabolism.

Each author shows how work in his or her field is leading to a better understanding of relationships and growth patterns. Prof.

Yeung sums up his chapter "... a better grasp of pollen morphology will lead to a greater understanding of how orchids evolved and how various tribes and genera are related to one another."

Recommended reading for serious orchid growers, plant biologists, and suitable for society libraries. We suggest that you order your copies through Twin Oaks Books 4343, Causeway Drive, Lowell, Michigan, USA. Normally their prices include surface mail to Australia •

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## Orchids of Western Australia — Cultivation and Natural History

Published by W.A. Native Orchid Study and Conservation Group (Inc.)

Price \$6.00, plus \$1.50 postage.

Available in W.A. from the Group's Secretary, 10 Jennings Way, Lockridge 6054. Elsewhere in Australia from Australasian Native Orchid Society, P.O. Box C106, Clarence St, Sydney 2000.

Abridged from a review by Michael Harrison

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The Western Australian Native Orchid Study and Conservation Group has been one of the most active and forward thinking of societies. This publication is a credit to them.

The first chapter details the features of orchid flowers, particularly W.A. terrestrial genera.

Dr Kingsley Dixon then explains the cultivation and propagation of W.A. orchids. There is an interesting section on the sterile fungus assisted germination technique.

Rod Peakall's chapter on pollination mechanisms is a fascinating mixture of history and living biology. He describes the observations of field botanists who have studied Australian orchids, including R.D. Fitzgerald, Edith Coleman, and Warren

Stoutamire. Amazing ways in which orchids achieve pollination are beautifully described.

Renowned orchid photographer Ron Herberie explains the botanical history of orchids in south-western Australia over the years 1791-1971. He lists each of the botanical workers and their taxonomic contributions. The research preparing this paper must have been considerable, and as few readers have access to the original material a valuable insight is provided. Such gems as Robert Brown recording being "eaten alive by mosquitoes" in the Lake Seppings area in 1802 may be amusing in retrospect, but to the early naturalists the joys of collecting in unknown countryside must have been tempered by many such unpleasant experiences.

Stephen Van Leeuwin's chapter on "Rare and Restricted Orchids" is a definitive treatment insofar as it relates to W.A. orchids. His comment that 85 unnamed taxa occur in the south-west of W.A., 65 of them belonging to the genus *Caladenia*, is remarkable and indicates the work to be done. Van Leeuwin lists 11 orchids currently gazetted as rare under the W.A. Wildlife Conservation Act. He lists a further 34 as being under consideration.

"Orchids of the Perth Area" introduces species which may still be seen within a 30km radius of central Perth. Author A.P. Brown is obviously familiar with orchids of this region.

The final chapter by Dr Dixon looks to the top end of W.A. and the distribution and habitat of 12 species recorded there.

This is an excellent publication by an active and dedicated group of people. All native growers and all society libraries should have it •

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## Orchid Wise a success

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Roger Rankin has been an orchid grower long enough to have gone through all the pangs, joys, frustrations, elations, and practical growing experiences to know all the facets of orchid growing.



A sense of humour has helped him get a lot of fun from it all. So much so that when funny, witty, true-life ideas occurred to him he jotted them down, then put them into a little book to sell around. Some folks liked them so much they came back for several copies as gifts for friends. An American nursery has written for a quote on 500 copies. One orchid society wants more than 200 copies to give to each of its members.

Roger is a student counsellor by profession who has found orchid growing a perfect way to relax after the rigours of work. His orchids have won nine championships, four Ira Butler trophies, and three awards.

As he points out in one of his aphorisms (pithy sayings if you prefer) "Growing orchids is like faith; for years you have to believe in what you are doing to enable you to see what you believed."

Buy his book and read the other few hundred for yourself. Send to Roger Rankin, P.O. Box 278, Salisbury, S.A. 5108. Price \$3.50 posted. There's a discount for bulk orders. ●

## An introduction to the Orchids of Mexico

BY LEON A. WIARD

Comstock Publishing Associates  
A division of Cornell University  
Press, 124 Roberts Place, Ithaca,  
New York 14850 USA.

Cloth cover, perfect binding, 239 pp.  
339, colour illustrations

Price: \$US80.50

Books on Mexican orchids are rare in Australia, indeed most places, so this book fills a need. There are about 800 species in the country growing in a wide range of habitats. Some species are endemic to quite small areas, and most can be classed as only being of botanical interest.

The introductory chapter explains the geography of Mexico and its influence upon the climate and distribution of

orchids. A valuable guide to culture. The tropic of Cancer just about cuts Mexico in two. The Pacific north-west region tends to be arid and is desert in part and subject to light winter rains. A central plateau takes up most of the north area, also arid and with few orchids. South of it are the central highlands, very high and densely populated. The plateau and highlands slope to the Gulf of Mexico, an area of good summer rain. The southern region is tropical, subject to summer rains, and rich in orchid genera. In the south-east is the low lying Yucatan Peninsula, high in rainfall but low in orchid genera, albeit with some rare endemics.

The author has collected in most of the 29 states and is able to describe the needs of the 40 genera dealt with in the book. He describes 154 of the horticultural species grown by himself and his friends. Descriptions cover identification features and measurements. He has followed an alphabetical arrangement with text and illustrations separate. This ignores higher classifications but makes for quick referral. In nearly every case each species is illustrated as a single flower and as a plant.

There are a few nomenclatural surprises. For instance all species in the Mexican and Central American section of *Odontoglossum* were transferred to a new genus by Federico Halinger in 1984. This genus, *Lemboglossum*, has characteristics which are an interesting blend of *Laelia*, *Odontoglossum*, and *Rossioglossum*.

Another grex, long known as *Odontoglossum citrosum*, is correctly *Cuitlauzinia pendula* Llave and Lax, established in 1824 and incorrectly placed in *Odontoglossum* by Lindley in 1843.

The illustrations and printing standard are very good, and the layout and typography of a very high standard. The book has two maps, a list of orchid authorities, a glossary, and is indexed.

*An introduction to the orchids of Mexico* is especially recommended to the species grower. It should be in every society library. We recommend that you order your copies through Twin Oaks Books, 4343 Causeway Drive, Lowell, Michigan, USA. Normally their prices include surface mail to Australia ●



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# Orchid Expo '88 stirs Queensland

Jim Male

*President Sub-Tropical Orchid Council of Queensland*

Only 15 months to go to the Conference and Show sponsored by the Sub-Tropical Orchid Council of Queensland to be held in the Civic Centre, Caloundra on the Sunshine Coast, and everything is well under control.

Orchid Expo 88 has obtained Bicentennial and World Expo endorsement. The organising committee has appointed sub-committees in each of the 11 participating societies to handle various tasks. This is working extremely well.

The show will be held in a magnificent new civic hall. There is room for 54 society displays, 16 trade displays, three special displays, and two or three cut flower displays.

The show schedule has 84 sections in 12 categories, with prize money amounting to approximately \$7000. Most of the prize money has already been donated.

Champion Orchid will receive \$1000, and Reserve Champion \$500. These prizes will be open to any orchid grower.

Plants will be on sale. Cost of entry to the Show is tentatively set at \$3.00.

The cost of staging the conference and show has been budgeted at \$22,500. The 11 societies in the council have guaranteed to raise this money by December 1987 and most have already raised their share.

Registration fee has been set at \$50 single and \$90 double if paid by December 31, 1987. It will be more later.

Guest speakers will include many fine growers not previously heard of in Australia. Mr Jack Woltman of Hawaii will speak on "Miniature Orchids". He is well known in Hawaii as a grower of miniature cattleyas. Mr Syd Wray of New Zealand will speak on the "Oncidium Alliance". Phalaenopsis will be covered by to US authority, Mr George Vasquez. Mr John Miller is to speak on flasking. Other speakers have yet to be announced.

Entertainment and catering are receiving special attention. Naturally, there will be a

show preview and cocktail party for registrants. A Tropical Gala Banquet will take place in the unique setting of the Big Pineapple tropical fruit plantation. And don't miss the Aussie barbecue. The Sunshine Coast is noted for its hospitality.

There is abundant excellent accommodation in the area at reasonable prices and a range of choice will be made available to registrants. One day tours will be made during the conference giving a choice of wonderful visits to the spectacular coast and sub-tropical hinterland, and orchid collections.

The organising committee suggests that after attending Orchid Expo 88 it would be a splendid idea to include in your holiday schedule the World Expo in Brisbane, then continue on to Sydney for Australia's Bicentennial Orchid Festival and Eleventh Australia Orchid Festival 17th-25th September 1988 •

## Hawaii Orchid Study Tour

Dr Ronald de Fossard, Australia's leading expert on mericlone culture, is organising an orchid tour to Oahu and Hawaii. He has many contacts on both islands among orchid growers. The tour is scheduled to leave 16th October and return 30th November, 1987. There will be ample opportunities for both business and social contacts.

For details contact Dr de Fossard at Tambourine Mountain Plants, Corner Long and Eagle Heights Road, Eagle Heights, Qld. 4271.

## A.O.C. Lapel Badges

This badge comprises the A.O.C. emblem encircled by the words "The Australian Orchid Council". It is on sale at \$3.80 and societies are asked to order in bulk. A special badge for fully accredited judges is also available.

# The genus *Pleione* in Australia

Ronald Kerr

**Pleione — the brightest star in the constellation Pleiades. Greek legend has it that Pleione and seven of her daughters were transformed into stars by Zeus.**

Pleione popularity proliferates! Where a temperature range of 0°C to 30°C prevails, or can be created, many species and most hybrids can do well. Some selection of clones may be needed to suit your conditions but many of the easily grown species and hybrids are now readily available in Australia and they are turning up on show benches.

The Gladysdale Nursery, run by Norm Collins, specialises in them. Mr Collins is a greenfingers grower and his stock is good. Unfortunately some of the nomenclature in his colourful brochure is incorrect. With the object of shedding light on the background of the genus, I've set out to establish the facts.

The genus has been a cinderella one, cultivated in the past more by alpine plant growers than orchid growers.

Surprisingly the first hybrid was registered only in 1966, while their introduction to England dates back to at least 1805.

In 1806 Sir James Smith, founder of the Linnean Society, described two plants from Nepal in his *Exotic Botany* as *Epidendrum praecox* and *E. humilis*. *Epidendrum* was then the botanical equivalent of the too hard basket.

David Don, later Professor of Botany at Cambridge, created the genus *Pleione* in his *Prodromus Florae Nepalensis*, based on Smith's two plants, with *P. praecox* as the genus type.

Lindley in 1830 made *Pleione* a section of *Coelogyne*, and Sir Joseph Hooker and Reichenbach followed this determination.

Later Lindley had doubts, writing in 1850, "There is something so peculiar that



*P. formosana* 'Oriental Jewel'. *P. pricei* is a synonym. It is a hardy grower and flowers well.

Photo: Norman Collins



it would be desirable to find some means of separating them from *Coelogne* ... But ... after all I find it necessary to leave them as an alpine form of *Coelogne* in the hope that future observers will find some sound generic characters."

Meanwhile they caught on with alpine plant specialists and became popularly known as "Indian crocuses". I saw them in an English nursery under this name, and doubtless many people are growing them without knowing they are orchids.

Probably their imputed association with the genus *Coelogne* led many growers of that era to cultivate them incorrectly. Nurserymen Ben and Henry Williams however praised the dainty plants in their *Orchid Growers' Manual* (1983) saying "Some authors regard them as forming a section of the genus *Coelogne* from which they differ but slightly except in habit, which is so peculiar that it would seem to indicate they are entitled to generic rank."

Robert Rolfe, Kew botanist and founder of the *Orchid Review* took the plunge and found good reasons, in 1903, to re-establish the genus. Early this century many species were named, some on the evidence of only one or two clones. The Royal Horticultural Society, as registering authority, grew concerned after the first hybrid was registered in 1966 and asked Kew for a revision.

The review was made by G. Hunt of Kew and cytologist C. Vosa of Cambridge University. They reduced the genus to nine species, considering that many named as such were merely morphological or colour variants. That review was not fully accepted by the RHS and several names regarded as synonyms by Hunt and Vosa were retained for registration purposes.

Over the past 18 months an interesting series on the genus has been appearing in the *Orchid Review*, written by Chris Bailles and Ian Butterfield. Occasional references to species and natural hybrids not in the Hunt and Vosa revision made me think that nomenclature in England was even more confusing than in Australia. That is, until an almost casual reference to a review by Cribb, Tang, and Butterfield made in 1984 appeared. So it was off to the best source, the Herbarium Library at Sydney's

Royal Botanic Gardens and the efficient help of librarian Anna Hallet.

This revision is masterly, helped by new habitat discoveries. But before looking at it let us examine genus habitat and culture.

**Habitat.** The genus grows on moss covered trees or logs, and on mossy rocks and cliff faces, places where quick drainage is a factor. They are found at medium to high altitudes in the Himalayas and mountain zones of Burma, Thailand, Laos, China, and over the water to Taiwan. They are adapted to monsoonal weather which ensures a wet summer, followed by a cold dry winter. Mid altitude species may be found in slightly warmer protected valleys.

**Growth cycle.** Plants make their growth during the summer wet season, and most species lose their leaves before flowering. The autumn flowering ones make leaf and flower growth together.

**Watering.** This should be commenced as the leaves develop and the mix kept moist. With the spring flowering clones there may be a gap before the flower scapes appear and watering should cease until they do. Stop watering when the flowers fade. Heavy watering, especially late in the day, can cause spotting of foliage and early defoliation.

**Dormancy.** After flowering pseudobulbs need complete rest. The roots will die. Should you have a potful of pseudobulbs and the compost is in good order, the pot may be left for another year to create a massed display of flowers. Otherwise this is the time to repot. When buying specify delivery in the dormant stage. This will be around June in Australia.

**Repotting.** It is important to repot before new root growth starts. New roots are easily damaged and if broken they will not branch.

The pseudobulbs which flowered will have one or two offset bulbs. Separate them from the spent one before removing the compost, then cut off the old roots leaving about 6mm attached to the pseudobulb. The short roots are an essential anchor to hold the pseudobulb until the new roots are established. The old bulb will have some small bulbils attached. If planted separately they will mature to flowering size in two to three years.

One of the shadehouses at Gladysdale Pleione Nursery. Plastic fruit boxes provide excellent insulation and good drainage for large scale production. The amateur grower will prefer smaller and more aesthetic containers.

Photo: Norman Collins



Pleiones growing in a rock garden bed at the Zurich Botanic Gardens. They are planted on a forty five degree slope in an open compost and drainage is excellent.

Photo: Ronald Kerr

Shallow pots should be used, about 75mm to 100mm high. Terra cotta or plastic are equally suitable but ensure there are enough holes for perfect drainage. Crock with river pebbles or styrene granules.

A suitable growing mix is one part chopped sphagnum, one part fine bark with dust removed, and one part pebbly sand, plus a little bone meal at time of planting.

However pleiones are not over fussy about compost, as long as the basic need for an open spongy one with humus content is met. Shredded English oak leaves, composted vegetation or leaf detritus, chopped treefern, and some charcoal, may all be used. Perlite can replace all or some of the sand. Some English growers use a proportion of fibrous loam. This is made

by leaving upside down turf sods for the grass to die, then shredding the sods.

The bottom two thirds of the pot should be filled with a coarser mix, then a sprinkle of bone meal. Three quarters bury the pseudobulbs in a less coarse layer of mix and cover with a layer of sphagnum moss. Close planting, say 5mm apart, makes for a good show. The old pseudobulbs will shrink as new ones appear.

**Growing conditions.** Brian Williams, a past editor of the *English Orchid Review* and grower of *P. Versailles* 'Huckleberry', AM/RHS, advises (OR Jan. 1977) "The genus needs a very buoyant atmosphere and frost free conditions in winter, and cool airy conditions and reasonable light in summer."

In Australia this translates to a cool glasshouse with fan and/or evaporative



cooler, or a breezy shaded verandah in summer, and protection against frost and rain in winter. Window sill cultivation in kitchen or bathroom can be rewarding. Ensure a southerly aspect.

A minimum of 10°C suits most species, but short periods of almost zero will not hurt. In their habitats thick layers of moss give some insulation against cold. In Australia short periods above 30°C can be tolerated if moist air movement is maintained.

**Fertilising.** When active leaf growth is obvious weak liquid fertiliser of NPK 3-2-2 plus trace elements is beneficial. Switch to 2-2-2 when flower stems appear. The Johnson formula may be used.

**Propagation.** *P. formosana*, *P. speciosa*, and *P. limprichtii* can produce two new bulbs annually. *P. bulbocodioides*, *P. X confusa*, and *P. hookeriana* usually produce only one. Two or three bulbils will also be produced on top of the old bulb, sometimes more but they will be much smaller.

Seed pods will mature in 220 days and can be propagated by flasking.

## The species

Problems in nomenclature have arisen because of natural hybridisation, polyploidy, colour variation, and wrong identification. Also type specimens determined by Schlechter and Kraenzlin were destroyed during World War II.

The need to accurately record hybrids has been helped by new discoveries in habitat areas, and by re-discoveries. All the problems have not been solved, but the revision by Dr Phillip Cribb of Kew, C. Z. Tang of Academia Sinensis, and Ian Butterfield the most experienced grower of the genus, does provide a firm basis for growers and botanists.

**Pleione Section Dictyopleione** Pfitzer. The autumn flowering species are in this section. They have mottled or warted pseudobulbs shaped like a top, and have two leaves. The flower stem has an inflated (leaf-like) sheath.

There are two species and a natural hybrid between them.

*P. maculata* (Lindl.) Lindl. Tricky to grow and it has been maintained in

cultivation largely by importations from the wild. It has smallish white flowers. The lip papillae are prominent and there is a centre blob of yellow. Distinctive red-purple bars are at right angles to the keel. The lip edge is finely toothed rather than frilled.

It grows at mid altitudes in India (Assam, Manipur, and Sikkim) Bhutan, S. China.

*P. praecox* (J. E. Smith) D. Don. A flower with large pink sepals streaked with white. The lip is wide, yellow centred, attractively frilled, and has four or five rows of lamellae.

Flowers appear as the leaves are finishing, so autumn toned leaves may be on the plants at flowering time.

It comes from high altitudes in Bhutan, Burma, S. China, N. India, Nepal and Thailand.

*P. X lageneria* Lindl. Introduced to cultivation in 1851 and only recently shown to be a natural hybrid between *P. maculata* and *P. praecox*. It shows the characteristics of both parents. Tepals are pink with white tips. Lip colours follow *P. maculata*.

From an area in Assam where the habitats of both parents overlap.

**Pleione section Pleione** Kraenzlin. Embraces all spring flowering species. Pseudobulbs are ovoid or flask shaped and bulbs have one leaf except for *P. scopulorum* which may yet be put in a separate section. Flower stems have smooth sheaths, and the lip may have either a hairy or lamellate callus.

*P. hookeriana* (Lindl.) W. W. Smith. Grows in thick moss on trees and rocks at high altitudes in Sikkim, Bhutan and Nepal. Sepals and petals are creamy white with touches of pink streaking.

The lip is wider rather than long, has two lines of barbate hairs, and is beautifully coloured in yellow and red. It has a short growing period and is tricky to grow well, but its beauty makes it worth the effort. There are clones with extra large flowers which may be tetraploids. May be hard to obtain in Australia.

*P. scopulorum* W. W. Smith. Not yet in cultivation. Noted for two leaves on each pseudobulb, long flower stems, and bright scarlet or magenta flowers. The lip has a

yellow or white centre, crimson spots, and white lamellae. Sulphur yellow forms have also been found. Grows in grassy ledges on cliffs or among humus covered boulders alongside streams in contiguous areas of N. Burma, S.W. China, and N.E. India. Found at altitudes 2800m-4200m.

*P. albiflora* Cribb and C. Z. Tang. A recently discovered species (1979). It has slender pseudobulbs and shorter flower stems. The flower is pouched at base and variable in size and colour. Tepals may be whitish or pale mauve, with a lip purple at the apex or with a bold crimson or brownish yellow central stripe. The lip is markedly fringed (lacerate).

It is one parent of the natural hybrid *P. X confusa*. Found from N. Burma to S.W. China at 2400m to 3250m.

*P. humilis* (J. E. Smith) D. Don. Has nodding white flowers, occasionally pink flushed, with close yellow brown or red spotting on the lip, which is beautifully frilled.

The clone *P. humilis* 'Kingdon-Ward' received an AM/RHS in 1962. It is tricky to grow and needs to be kept very cold and dry in winter. New roots do not appear until the flower has withered so compost should be kept barely moist until root activity is obvious.

It does not always produce new pseudobulbs but may have up to 50 small bulbils which are hard to grow.

This species is found on mossy trees, never on the ground, in Sikkim and Nepal at 2400m to 2750m.

*P. coronaria* Cribb and C. Z. Tang. A new discovery from a localised region in Nepal. The name refers to the crown-like ring left on the pseudobulb when the leaf falls off. Flowers are small. Not in cultivation.

*P. forrestii* Schltr. The plants long cultivated under this name have now been shown by Cribb and Tang to be of hybrid origin. In 1979 a Sino-British expedition to Cangshan in Yunnan Province sent back plants which on flowering matched the original type specimen of *P. forrestii*, but not the form in nursery cultivation. The later was derived from propagations of one clone from the Edinburgh Botanic Gardens

which was the only one in Britain to survive World War II.

The true *P. forrestii* generally has primrose yellow flowers with crimson spots on the lip. However flowers may be creamy or ivory. There are five to seven lamellae in the lip which is prominently fringed.

Finding of *P. albiflora* in the same area, and intermediate forms between it and *P. forrestii*, showed the long cultivated form to be a natural hybrid, now *P. X confusa*. Found at 2400m-3100m S.W. China. May also be in N. Burma.

*P. X confusa* Cribb and Tang. Parents apparently *P. forrestii* and *P. albiflora*. The cultivated hybrid closely resembles *P. forrestii* in colour but the flowers are larger and petals more falcate. The lip is finely fringed and the lamellae irregular. Some fine yellow hybrids, such as *P. Shantung*, have been made using *P. X confusa*.

*P. yunnanensis* (Rolfe) Rolfe. Another classic example of how names can go wrong. The type was described and named by Rolfe in 1903. Three years later he identified some clones imported by a nursery as being the same species. This second batch has been extensively propagated and sold as *P. yunnanensis* ever since.

The mistake became apparent due to several recent importations being found to match Rolfe's original type but not the cultivars. The nursery cultivar is now regarded as a synonym of *P. bulbocodioides*.

The true *P. yunnanensis* is smaller flowered. It has attractive lavender-pink to rose flowers with rounded tepal extremities. The lip had broad side lobes, a toothed mid lobe, and the fine white lamellae are entire.

It is found in meadows or on mossy rocks in shade, from N. Burma to S.E. China at altitudes of 1350m to 3200m.

*P. grandiflora* (Rolfe) Rolfe. Known only from the type collected in S. Yunnan. It is recorded as being exceptionally large.

## The *Pleione bulbocodioides* Complex

*P. bulbocodioides*, *P. formosana*, *P. limprichtii*, *P. speciosa*, and the doubtful species *P. chunii*, are all closely allied and some authorities regard them as one





*P. formosana* 'Alba'. A hardy white which displays itself well. A white potful amongst some coloured ones enhances a display. Photo: Norman Collins

variable species. The RHS continues to register hybrids between species regarded as conspecific by Hunt and Vosa and further assessment will no doubt take place.

Crib *et al* prefer to regard *P. bulbocodioides* as a complex whose wide distribution has resulted in about 15 different names being applied to its variants. The position is complicated by lack of living material from mainland China.

*P. bulbocodioides* (Franchet) Rolfe. Pseudobulbs are smooth and pear shaped. A sheathing bract on the flower stem is inflated making it look like a small leaf. Tepals are pointed, and cerise in colour. The lip is pink with dark red spotting and beautifully fringed in white.

A 6x form (120 chromosomes) has been counted and polyploidy could be common.

**Synonyms.** Several forms previously named as species are within its range of variability, including *P. delayi*, *P. speciosa*, *P. pogonioides*, *P. henryi*, *P. communis*, *P. mairei*, *P. smithii*, *P. rhombilabia*, and *P. mandarinorum*.

This species needs to be well grown to flower well.

*P. formosana* Hay. Most of the pleione plants readily available in Australia are variants of this species. It is easily cultivated and hardy. It can be planted outside in protected areas and will stand frost reasonably well. It is a quick grower and easy to propagate vegetatively.

A form long known as *P. pricei* is now regarded as being within *P. formosana*. It was given species status by Rolfe in 1912, largely on the ground that it had only two lamellae in the lip but other forms of *P. formosana* have this characteristic. The synonym *P. pricei* corresponds to the cultivars *P. formosana* 'Oriental Grace' and *P. formosana* 'Oriental Splendour'.

The colour range is so wide that dozens of clones have been given cultivar names.

The lip callus is irregular and the number of lamellae varies but is generally four or two. The lip edge is nicely frilled.

*P. limprichtii* Schlr. The plants in cultivation are from two known clones, one a diploid, the other a tetraploid. The form

from Sichuan in China has rose-magenta tepals and a paler lip full of brick red spots. The other known as "Pink" is pale pink with a whitish red spotted lip and comes from Burma. Altitude range is 2000m-2500m.

These clones need a cold dry winter and do best with pseudobulbs buried in the mix and topped with sphagnum.

Retained by the RHS for registration purposes.

*P. speciosa* Ames and Schltr. A striking member of the *P. bulbocodioides* complex. Tepals are pointed and falcate and range from white streaked pink to rose-purple in colour. The lip has two or four yellow lamellae, basically pink with bands of red each side of the lamellae. There is a tetraploid form.

It does well in cultivation and can have two flowers to a stem.

Treated as a separate species by the RHS.

A clone sold by Charlesworths as *P. pogonioides* is a form of *D. speciosa*.

**Doubtful species.** There are two doubtful species: *P. chunii* Tso and *P. pleionoides* Kraenzl. Insufficient is known about these recordings. They are not in cultivation.

## Availability in Australia

The only Australian specialist in the genus is Norm Collins of Gladysdale Nursery, Gladysdale, Victoria 3797. Send for his brochure and price list. His stock comes from the English Butterfield and Harberd nurseries and comprises a good range of hardy species variants and some hybrids.

In the next issue we will look at hybrids. Increased hardiness and flower life has been bred into them. By then you should have your brochure but note the points on names detailed below.

Front of brochure: *P. Versailles* 'Buckleberry', AM/RHS; *P. Shantung* 'Norm Collins'.

Centre spread, across top left to right: Probably *P. formosana* 'Avalanche'; *P. formosana* 'Oriental Grace' (syn. *P. pricei*) *P. formosana* 'Iris'; *P. ?* 'Gladysdale'.

Across bottom. *P. formosana* 'Orwell Glory'; *P. formosana* 'Serenity'; *P.*

*formosana* 'Snowgoose'; *P. formosana* 'Oriental Jewel'

Pages 6 and 7, across top: *P. ?* 'Hazel-dene' (from the two keels it could be another form of *P. formosana*) *P. formosana* var. *alba*; *P. formosana* 'Benita Collins'.

Bottom: *P. formosana* 'Ida Collins'; *P. ?* 'Powelltown'; *P. formosana* 'Julie Collins', *P. X confusa*.

Back page: *P. bulbocodioides* (6x = 120 chromosomes); *P. formosana* 'Clare'.

Two English nurseries specialise in the genus *Pleione*:-

Dr David Harberd, 29 Foxhill Crescent, Weetwood, Leeds. LS165 PP VR, England.

Ian Butterfield, Harvest Hill, Bourne End, Bucks. SL8 5JJ UR •

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# A REPORT ON THE 12TH WORLD ORCHID CONFERENCE

R.W. (Bob) Nicolle



An exhibit featuring Meltonias.

World Orchid Conferences are held every three years. They are normally held during March in the Northern Hemisphere. The two conferences that have been held in the Southern Hemisphere, Durban, South Africa and Sydney, Australia, have been held during September.

The World Orchid Conference was instituted for the purpose of promoting the study of orchids from a scientific viewpoint and the 12th World Orchid Conference held in Tokyo, Japan from the 19th-25th March, this year continued to provide significant results from the scientific viewpoint and also continued to foster interchange and deepen friendship between orchid growers from many different countries.

Over 1,000 orchid growers from around the world joined 1,500 growers from Japan to stage the most extravagant World

Orchid Conference ever held in the 32 year history of World Orchid Conferences. The conference, which was held in Japan for the first time, was co-sponsored by the Odakyu Electric Railway Company who were celebrating their 60th anniversary. The Odakyu Group was a perfect sponsor. They owned the private railway between the conference venue and the conference show, the mono rail from the station to the show and also the Mukogaoka Recreational Park where the conference show was held.

The lavish Century Hyatt Hotel proved to be an ideal venue for the conference centre. The registration desk and four lecture rooms were in the second floor basement. The lounge in the huge lobby at ground level was an ideal spot to meet the passing parade of orchid identities from around the world. The Hyatt was close to



the 2nd conference hotel, the 47 storey Keio Plaza Hotel and was only 10 minutes on foot or 5 minutes by shuttle bus from Shinjuku Station, the link to the orchid show and the rest of Japan.

Shinjuku Station is the largest in Japan. It is a huge complex occupied by at least three private railroads and the government railway. 1.5-2.5 million people pass through the station every day and the promotion for the conference in the station was complete. There were huge illuminated pictures of cattleyas as large as three drive-in theatre screens. There were thousands of small conference banners hanging from gold flagpoles and there were banks of closed circuit television sets, 12 large screen sets to the bank, showing continuous pictures of the international orchid show.

The budget to stage the show was US \$10 million and rumour has it that the organisers spent US \$15 million. The major part of the expenditure was on two huge, inflatable, plastic domes that were erected to house the spectacular orchid displays. The domes were estimated to be 30 or more metres high. The main exhibition dome covered an area of approximately 4,500

square metres and contained displays by orchid societies and commercial growers. The second exhibition hall was the same height, but was long and curved and looked like a giant cocoon. This hall housed the oriental orchids, Japanese orchids, flower designs, arts and handicrafts and the commercial selling areas.

The show was open to the public for seven days. Admission was 1,500 Yen (A\$15) for adults and an estimated 200,000 tickets were pre-sold prior to the opening.

The Australian exhibit staged by the Australian Orchid Council included orchids from Queensland, New South Wales, Victoria, South Australia and Tasmania. The flowers were carried as baggage and were packed in Australia on Friday, 13th March. Maybe the date was an omen. The flowers survived a night under bond in Hong Kong and inspection by the Japanese authorities at Narita Airport who were much more interested in the strange looking lumps among the leaves of the Eucalypts. We had difficulty convincing the inspectors that the lumps weren't insect nests but, in fact, gum nuts that had not yet opened. The flight into



The large inflatable dome that housed the main competitive exhibition.



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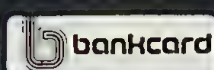
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A boat load of *Phalaenopsis* on a sea of orchids.

Tokyo was scheduled to arrive at 2.45 p.m. However it was nearly an hour late. Even after the agricultural inspection, we still thought that we would have no problem staging the exhibit by the deadline of 10 p.m. After a two hour ride in a mini bus for the conference centre we reached the Hyatt Hotel at 8.30 p.m. where we were informed that nominations for exhibits closed at 5 p.m. — we were too late.

A small group led by Don Gallagher, the president of the Australian Orchid Council, worked into the early hours of Monday morning staging a large exhibit that attracted a lot of attention due mainly to the fluffy Koalas perched among the Eucalyptus branches.

The judging with judges from most orchid growing countries in the world was very well organised. The nomination sheets and judging sheets were computerised. The Judges Breakfast was unusual — they were collected from their hotels at 6.30 a.m. and taken to Shinjuku Station and breakfast was served on the "Romance" train while travelling to the show. Judging started at 8.30 a.m. At the conclusion of the judging,

at approximately 4 p.m., the judges received a gift of a dinner plate stand featuring a painting of *Neofineta falcata*, the conference symbol. Any judges not present at the conclusion of judging missed out on the gift.

Everything about the show was spectacular from the magnificent buffet style lunch at the Opening Ceremony, the telegram from President Reagan wishing the conference well to the Amusement Park outside for those tired of looking at orchids.

The trip from the conference hotels to the show was an adventure in itself. From Shinjuku Station with its hundreds of Japanese and Chinese restaurants providing four course meals for about \$15 Australian, one travelled by fast electric train for 20 minutes to Mukogaoka Wuen Station and then changed to electric mono rail for a five minute ride to the entrance to the recreational park containing the orchid exhibition. The two huge domes were on top of a hill which was reached by two flights of moving stairs, each flight approximately 200 metres long. The final



The Australian exhibit with its koalas, kangaroos & possums.

200 metres to the exhibition halls, from the top of the moving stairs, was via a large artificial lake and Japanese style gardens.

At the scientific lectures, speakers from countries as diverse as Kenya, Ecuador, China, Thailand and Holland discussed orchid issues ranging from bio-technology using orchids, to the computerisation of orchid registers.

The conference program was scheduled over three days with three main lectures running simultaneously. The simultaneous sessions were divided into "science and conservation", "orchid flora and orchid group sessions" and "orchid industry and other topics". At the same time as the three main lectures were running, poster sessions were held covering subjects, that were more obscure in more detail. Poster sessions enabled the presenter to explain particular aspects of his presentation in detail on a one to one basis which was essential with subjects such as "Flowering Characteristics and its Regulation of *Habenaria (Bectelis) radiata*", Orchid Taxonomy based on Amino Acid Analyses and Biology" and "Classification of Fungal Endophytes

associated with Australian Terrestrial Orchids".

In addition to the lectures there were forums for photographers, artists, judges, writers and editors and commercial orchid growers. The forums were all scheduled for between 1.5 and 2 hours which in most cases was not near long enough. The commercial orchid growers, e.g. have resolved to approach the organisers of future conferences for a longer period so that the issues can be discussed in more detail.

The main social events at the conference were the Japan night which was described in the promotion as a cocktail party at 10,000 Yen (A\$100) per person, but, in fact, turned out to be a magnificent buffet style banquet with demonstrations of traditional Japanese arts. The banquet and award giving ceremony which was scheduled to run for 2.5 hours on Saturday night @ 15,000 Yen (A\$150) per person was a formal affair with pre-arranged seating. The cost of the banquet probably kept many people away.

Japan has a long history in orchids.



Among the orchids on display was a flowering plant of *Dendrobium* "Indo-Yo" which was one of the first orchids ever to come into Japan from the west. "Indo-Yo" which means "Indian Ocean" in Japanese was named because it flowered on board ship on its way from England to Japan in the late 1800s. This was the age when Japan was opening its doors to anything and everything foreign, orchids included. But orchids from the west like long dresses with bustles and high collar shirts were only for the wealthy.

Japan of the 1980s produces some of the best quality orchids for the bulk commercial trade anywhere in the world with an annual production estimated at 15.5 billion Yen (A\$155 million).

There are two sides to orchid growing in Japan, one is the gentle world of orchids grown for pleasure by the 50,000 or so hobby collectors, the other is the cut throat world of the commercial orchid trade.

The biggest cut of this commercial trade is held by decorative pot plants for gifts — mainly cymbidiums because they are relatively inexpensive at 2,000-3,000 Yen (A\$20-\$30) for a showy plant. Some 20cm pots of Valley Flower 'Cherry Ripe' priced at 22,000-25,000 Yen (A\$220-\$250) were common in florists shops around Shinjuku Station. Other favourite pot plant types are *dendrobium* and *phalaenopsis*.

The cut flower trade takes the next biggest slice of the pie with flowers for wedding decorations being the most lucrative. Sixty million sprays of cut flowers (mainly hard cane *dendrobiums*) come in from countries like Thailand and Singapore every year to decorate wedding and banquet tables and brides.

What of the cattleya, the queen of all orchids? In the commercial world of Japanese orchid growing, the cattleya sells the smallest volume, but it has the most prestige. "If a Japanese florist shop doesn't have any cattleyas in the display case the image of the shop plummets", says Mr Hanajima who breeds high quality cattleyas in his nursery in Mishima City. A small florist shop in The Keio Plaza Hotel where I was staying has a cattleya plant in its window for some time. The cut flower business is losing suppliers in Japan

because growers find it more profitable to sell pot plants. This leaves a huge potential cut flower market wide open to cheaper blooms from overseas countries like Australia, New Zealand and Europe. This may be one area where Japan's trading partners have a chance to even out their trade balances.

The next World Orchid Conference will be held in Auckland, New Zealand in September, 1990. It is a unique opportunity for Australians to attend and exhibit at a World Orchid Conference. I am sure that the 80 or so Australians who attended the World Orchid Conference in Japan will be urging their friends not to miss the opportunity of a lifetime and to attend the next World Orchid Conference in New Zealand •

## 1987 AUSTRALIAN ORCHID AWARDS BOOK

Each year since 1984, Australian Orchid Review has published the winners of the Australian Orchid Council's Awards. The winners are superbly presented in glossy colour. The 1986 Awards book contains nearly 50 beautiful colour photographs (see advertisements for the 1986 book on p45).

Currently, the Australian Orchid Council is judging this year's winners. The Australian Orchid Review will then produce the 1987 Awards book, a must for any judge, and any person seriously interested in orchids. The 1987 awards book will be released in mid-September.

To ensure you receive your copy, send in your payment now and we will reserve a copy for you. Please use the order card in the centre of the magazine. Back copies of the 1984, 1985 and 1986 awards books are also available.

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**Blc. Living Gold 'Erin Treasure'** AM/AOS. Full shape exhibition bright yellow with contrasting red lip. (Flr size, \$30 ea).

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# Proud Prasophyllums

Bob Bates



*P. diversiflorum.*

Endemic to south-west Victoria and close to extinction. One of many plant species discovered by A.C. Beaglehole of Portland.

*Prasophyllum* is a large genus of predominantly Australian terrestrial orchids. (A few species extend to New Zealand and New Caledonia.) There are two natural groups within the genus, the first of these (about 40 species) belong to section *Micranthum*. These all have tiny flowers and bloom in autumn. Species of this group are commonly referred to as "midge orchids" and the section is likely to become a genus separate from *Prasophyllum*. The second group, the true *prasophyllums*, also has about forty species, most of which flower in spring or

early summer. Most species have flowers about 1 cm across but what they lack in size they often make up for in perfume. Species of the *P. elatum* — *P. regium* complex often produce spikes over 1 metre tall, with up to 150 flowers.

Most species occur in the cooler, damper parts of southern Australia, their habitats ranging from coastal heath and sand-hills to the alpine zone (one species, *P. alpinum* has been found within 100 metres of the summit of Mt Kosciuszko making it Australia's "highest" orchid!) Other species such as *P. patens* and *P. macrostachyum*

var. *ringens* extend into semi-arid areas where they occur about rock outcrops.

The name *Prasophyllum* comes from the Greek "prason" a leek and "phyllon" a leaf and refers to the single hollow, cylindrical leaf. This feature also give rise to the vernacular name "leek orchid". (Just before flowering the leaf splits at its weakest point and out pops the flower spike.)

Species range in height from a tiny 5cm for an un-named coastal species from southern Australia to a record 200cm for the tallest *p. regium* in the kauri forests of south-western Australia. There are some attractively coloured flowers, especially in the bee-pollinated species but most have rather dull colours of green and brown.

Perfumes vary from lilac blossom, to peppermint, lemon essence and even horse manure.

**Fire stimulation:** A feature of many species is their reluctance to flower until the ground is scorched by fires. This makes it very difficult to study some of the "bushfire" species as they may not flower for periods exceeding twenty years. Some of the species when not in flower do not even produce leaves but subsist as underground plants only, while in others the tiny filiforme leaf is most difficult to find. Even finding a prasophyllum in flower in the bush is a bit like looking for a needle in a haystack with the green-flowered species.

**Pollination:** Prasophyllums have developed a relatively non-selective method of attracting pollinators. They provide nectar at the base of labellum or in cells on the labellum callus plate. Any insects wishing to partake of this nectar are free to do so. Prasophyllum flowers may be and are pollinated by a whole range of insects but a distinct pattern is noticeable as far as really successful pollination is concerned.

Species with dull-coloured flowers are visited most often by wasps whereas leek orchids with lots of white or pale purple in their flowers have an increased percentage of visits by bees. Flies also may be attracted and one would suspect that those forms of leek orchid with odd, unpleasant or fruity odours may be selectively advertising to

flies. There is an old fallacy that beetles achieve a significant amount of pollination in prasophyllums, simply because they are frequently seen on the orchid spikes. The beetles in truth seldom remove pollinia; when they do they transfer it less effectively and most of what they transfer is to flowers on the same spike, thus preventing effective out-crossing. Beetles also damage the flowers by eating them. Of many hundreds of pollination events in prasophyllum seen by the author — fast flying thynnid and ichneumon wasps predominated, native bees came second and flies and beetles an even third. Because of the amount of nectar stealing, pollen loss and the inefficient positioning of such diversity of pollinating insects, it has been necessary for *Prasophyllum* to evolve a multi-flowered spike. There does not appear to be much of the floral mimicry which we usually associate with orchid flowers. It has, however, been noted that the very tall species have spikes resembling those of *Xanthorrhoea* (grasstrees) which provide copious nectar. (Prasophyllums in general provide only limited supplies of nectar).



Female ichneumon wasps pollinating a green form of *Prasophyllum elatum*.



# ORCHIDS IN AUSTRALIA

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*P. hians*. A common fire stimulated species from Western Australia.



**Melanism:** Prasophyllum flower spikes are commonly chewed off by kangaroos and other herbivores. To afford themselves some protection many of the tall fire-stimulated species have evolved a form of temporary melanism (an increase of dark pigmentation as produced by sun-tanned humans). The very dark scapes, and often flowers too, make the plants look like unattractive burnt sticks.

Prasophyllum flowers have the labellum (lip) at the top, above the column. This makes them appear to be upside down. (When depicted in wild-flower books the plates are frequently inverted for this very reason.) Of course it is the prasophyllum flowers which are the right way up because other orchids rotate their flowers in bud to place the lip down!

**Hybrids:** Prasophyllum species are not well isolated reproductively as several species in the one area may attract the same insects. The author has in fact observed wasps moving indiscriminately from *P. elatum* flowers to *P. giganteum*. Little wonder that hybrids between these two are often seen.

Nearly all the hybrids recorded so far have been from the south-west coast of Western Australia. One species there — *P. triangulare* — is so poorly protected from hybridisation that pure *P. triangulare* has hardly ever been collected. Prasophyllum hybrids are not easily recognised because they have such similar small blooms. Perhaps the most obvious was one found by Andrew Brown — *P. fimbria* x *P. giganteum*. Other hybrids include *P.*



*elatum* x *P. regium*, *P. drummondii* x *P. regium*, *P. brownii* x *P. regium* and *P. brownii* x *P. elatum*. In the eastern states, similar species either do not occur in the same areas, flower at different times or are isolated by a tendency to self pollinate. Another isolating mechanism is perfume. A species smelling of fruit is not likely to attract the same insects as a lilac-scented form.

Man-made hybrids have rarely been made, although the author has cross-pollinated several species to test for compatibility. In many cases the seed has not proved viable, indicating some internal barriers to hybridising.

**Cultivation:** Although not having a wide popular appeal some species have proved quite amenable to cultivation. In general a friable bush loam has proved the most suitable medium. Small species do best in small pots but for obvious reasons very large species should be grown in at least 15cm diameter pots. If you are able to protect your pots from excessive rainfall a standard terrestrial soil mix (see "Cultivation of Australian Native Orchids" A.N.O.S. Vic. [1985]) should prove suitable.

A major problem lies in getting fire-stimulated species to actually flower. Some species such as *P. elatum* flower well enough simply through being repotted and having leaves burnt or ash tipped on the pot. The technique of exposing tubers to ethylene gas (released by ripening fruit) gives even better success. I doubt that *Prasophyllum* will ever become one of the commonly cultivated genera.

## Selected species

*Prasophyllum fimbria*: Often over 1 metre high this common Western Australian species comes in a variety of attractive forms. The crystalline white labellum is often tinged pink or purple. Unfortunately it is fire stimulated and prone to rotting. Should be grown under shelter and given the "ripe banana" treatment.

*Prasophyllum lindleyanum*. (Syn. *P. brainei*). From eastern Australia. This species' most desirable attribute is its strong sweet perfume. It flowers freely



*P. gibbosum*. A dwarf species from coastal swamps in Western Australia. It flowers after fires and is perfumed.

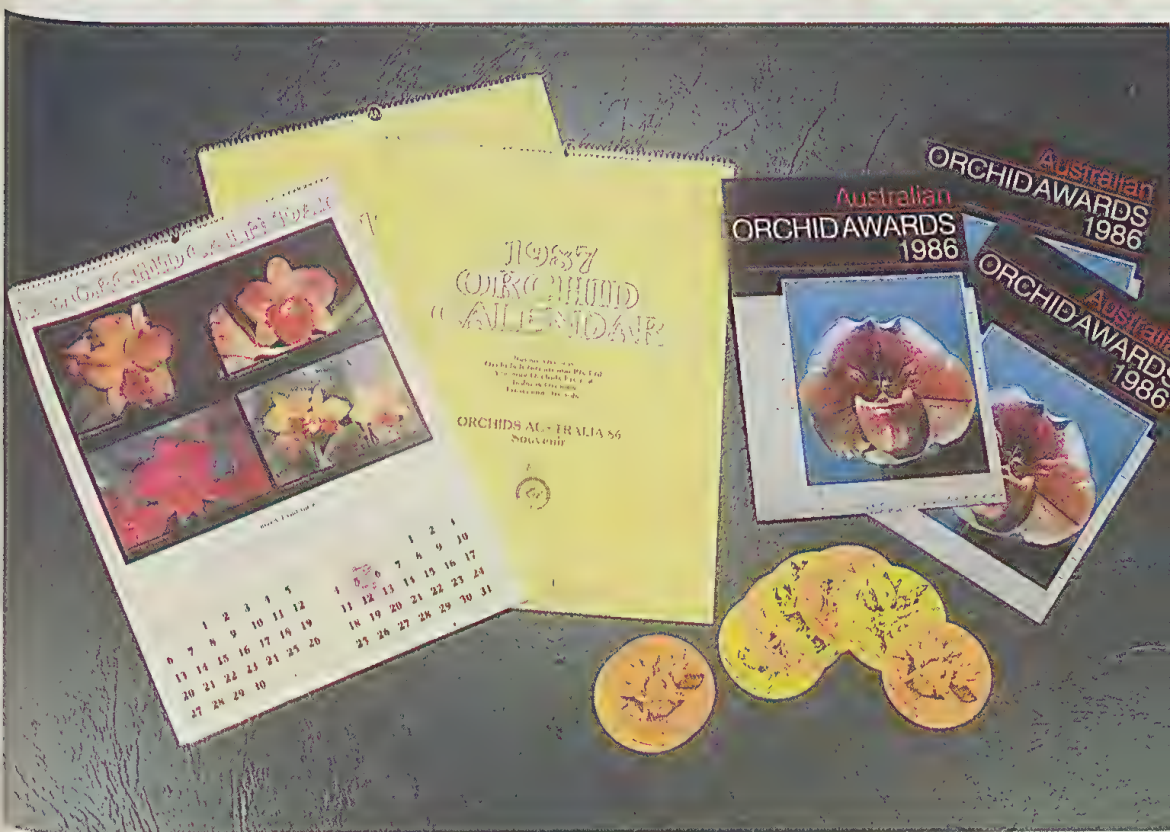
when well grown. It increases only if plants are repotted after flowering and the tubers removed to encourage regrowth of secondary tubers.

*Prasophyllum giganteum* (Syn. *P. grimwadeanum*) This tall, dark and handsome sweet-smelling species is very common all around the coast of Western Australia south of Shark Bay. Another fire stimulated species, I have never seen this one flowered in a pot, although there are struggling plants in captivity.

*Prasophyllum gibbosum*. The virtual antithesis of the previous species, this is a dwarf plant with a distinctive pyramidal inflorescence. There are several different forms with distinctive perfumes. Fire stimulated and rarely flowered in cultivation.

*Prasophyllum australe*. A tall, stately swamp dweller with a delightful perfume. It occurs from southern Queensland to Tasmania and as far west as Adelaide, flowering in early summer. You will need to live in a cool district to grow this one well. On hot days it is visited by the wasps

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The genus *Prasophyllum* unique and beautiful. A green stemmed form of *P. fimbria* from near Albany in Western Australia. Stem may exceed one metre. Predominantly bee pollinated.

---

Bob Bates  
38 Port Marnock St  
Fairview Park, SA, 5126

---

which are its main pollinators, but on cool days the spikes often harbour a few colourful jewel beetles.

*Prasophyllum drummondii*. This beauty is the western equivalent of *P. australe*, a tall, vigorous swamp dweller. In my experience this is the easiest of all leek orchids to grow, increasing by at least 100 per cent per year and flowering freely, especially if given plenty of sunshine.

*Prasophyllum diversiflorum*. is one of our most endangered species. It was thought to be extinct for many years having originally been known from a single location (subsequently destroyed). In 1983 it was rediscovered on a heavily grazed boggy roadside some fifty kilometres from the type location in south-west Victoria.

**Conservation:** Many *prasophyllum* species were confined before settlement to

fertile, well-watered grassland and open forest. An examination of herbarium specimens from throughout Australia indicates that several species from this habitat have been collected once only and not seen again, their habitat long since ploughed under. It is too late for these (including some species never named) but we must assure that further species do not suffer the same fate; after all the lowliest leek orchid has the same right to existence as the most spectacular wildflower.

**Acknowledgements:** I wish to thank the many people who have helped me in my continuing study of the genus. I would be pleased to hear from anyone who may know of any *Prasophyllum* they believe to be new to science, or from anyone who have information on the genus they would like to pass on •



# York Meredith brings back super *Odontoglossum* hybrids and species from “Colomborquideas”



*Odcdm. Cambalache*



*Oda. Guajira*

## Crosses with Top Awards

York is now agent for “Colomborquideas”, outstanding odont-alliance prize-winners at World Orchid Conferences, including Tokyo 1987. Spectacular flowers! They grow happily in cymbidium conditions in Sydney. (Top bloomings at 10° minimum to 25° maximum) A few only of crossings listed here, at \$45 each. But all these and 125 others can be ordered for special delivery in about 17 weeks. Send for complete list.

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- Oda. Manchada (Oda Dalport x Oda Ingera) ..... \$45
- Odm. Nutibara (Odm. Chewelah x Odm Washtucna) ..... \$45
- Odm Cascabel (Odm. harryanum x Odm Tordonia) ..... \$45
- Oda Pontezuela (Odm Tontor x Oda. Ingera) ..... \$45
- Oda Mala Noche (Odm. harryanum x Oda Jumbo) ..... \$45
- Oda Sorpresa (Odm Quisto x Oda Caribe) ..... \$45
- Oda Montanera (Oda Jumbo x Odm. Stropheon) ..... \$45
- Oda Espumas (Odm Robesca x Oda. Tiger Mountain) ..... \$45
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- Oda Serrana (Oda. El Retiro AM/AOS x Oda Tayrona) ..... \$45
- Oda Maravilla (Oda Tayrona x Odm. Crystal BM/AOS) ..... \$45
- (Odm Washtucna x Odm Pumistor) ..... \$45
- (Odm Dorado x Odm Yukon Harbor) ..... \$45
- Oda Blanca Nieves (Oda Flocalo x O Radiant AM/RHS) .. \$45
- (Oda Flocalo x Odm crispum 'Selsfield') ..... \$45
- (Odmna Dolores (Odmna Diane 'Loriot' x Odm G Basin) ... \$45
- (Wils Incurviana x Oda Arco Iris) ..... \$45
- (Oda Topa x Oda Are) ..... \$45

(All these plants available from June 30th, not before)

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- O harryanum, large chestnut with white lip ..... \$80
- O luteopurpureum, showy chestnut & yellow ..... \$50
- O pescatorii, gorgeous white with rose fls ..... \$250
- O wallisii, white marked rose, lip yellow ..... \$80

### RARE ONCIDIUMS!

- Oncidium orgyale*, purple terrestrial ..... \$60
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### AND FROM HONDURAS ...

- Odont. pulchellum*, fragrant white ..... \$24
- Odontoglossum suberuciforme* ..... \$24
- Odont. williamsonianum*, (O. grande type) ..... \$50

### *Odontoglossum coronarium*







*Cattleya bicolor braziliensis*



*Sophronitis cocinea*

## BRAZILIAN CATTLEYAS, LAELIAS!

And some from Venezuela! Superb species becoming rarer each year.

Only a few of each of these! York, just back from South America, says the great *Cattleya/Laelia* species are simply disappearing and prices can only go UP!

<i>Cattleya aclandiae</i> .....	\$40
<i>Cattleya araguiensis</i> .....	\$50
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<i>Cattleya harrisoniana</i> v alba .....	\$50
<i>Cattleya labiata autumnalis</i> .....	\$35
<i>Cattleya loddigesii</i> v alba .....	\$50
<i>Cattleya nobilior</i> .....	\$35
<i>Cattleya schilleriana</i> .....	\$40
<i>Cattleya walkeriana</i> .....	\$35
<i>Cattleya gaskelliana</i> .....	\$40
<i>Cattleya mossiae</i> .....	\$40
<i>Cattleya percivaliana</i> .....	\$40
<i>Laelia angereri</i> .....	\$45
<i>Laelia briegeri</i> .....	\$40
<i>Laelia endsfeldsii</i> .....	\$40

<i>Laelia harpophylla</i> .....	\$40
<i>Laelia milleri</i> .....	\$40
<i>Laelia pumila</i> .....	\$30
<i>Laelia pumila</i> v corulea .....	\$200
<i>Laelia reginae</i> (white var.) .....	\$35
<i>Laelia xanthina</i> .....	\$40

## SUPER SOPHRONITIS!

York was lucky to get these Sophros, mainly from high mountain locations. Flowerings from February to September. The early ones are

smaller but better shape. The illustrated one flowered early.

<i>Sophronitis brevipedunculata</i> .....	\$25
<i>Sophronitis cernua</i> .....	\$24
<i>Sophronitis cocinea</i> .....	\$24
<i>Sophronitis mantiqueirae</i> .....	\$24
<i>Sophronitis roseum</i> .....	\$30

## AND THESE RARITIES:

<i>Brassia ochroleuca</i> .....	\$28
<i>Colax jugosus</i> .....	\$40
<i>Comparettia coccinea</i> .....	\$30
<i>Cryptophoranthus atropurpurea</i> ..	\$24
<i>Galeandra dives</i> .....	\$30
<i>Ionopsis paniculata</i> .....	\$24
<i>Miltonia candida</i> .....	\$45
<i>Miltonia clowesii</i> .....	\$35
<i>Miltonia cuneata</i> .....	\$35
<i>Miltonia flavescens</i> .....	\$30

<i>Miltonia regnellii</i> .....	\$35
<i>Marsiphiaria iridifolia</i> .....	\$35
<i>Promeenaea stapelioides</i> .....	\$24
<i>Promenaea xanthina</i> .....	\$24
<i>Stenocoryne vitellina</i> .....	\$30
<i>Theodorea gomesioides</i> .....	\$24
<i>Trigonidium obtusum</i> .....	\$25
<i>Telipogons</i> — small quantities of several species .....	\$45

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## AND THESE BRILLIANT COLOMBIAN MILTONIOPSIS!

Three of the great (vanishing) flowering spectaculars: Only a few plants here but York can fill orders.

<i>Miltoniopsis roezlii</i> (pictured) .....	\$40
<i>M. phalaenopsis</i> , large white with purple .....	\$50
<i>M. vexillaria</i> , showy pale-pinkish flowers .....	\$50

(Available from June 30th)

*Miltoniopsis roezlii*



York's new orchid adventures, include treasures from

## JAMAICA

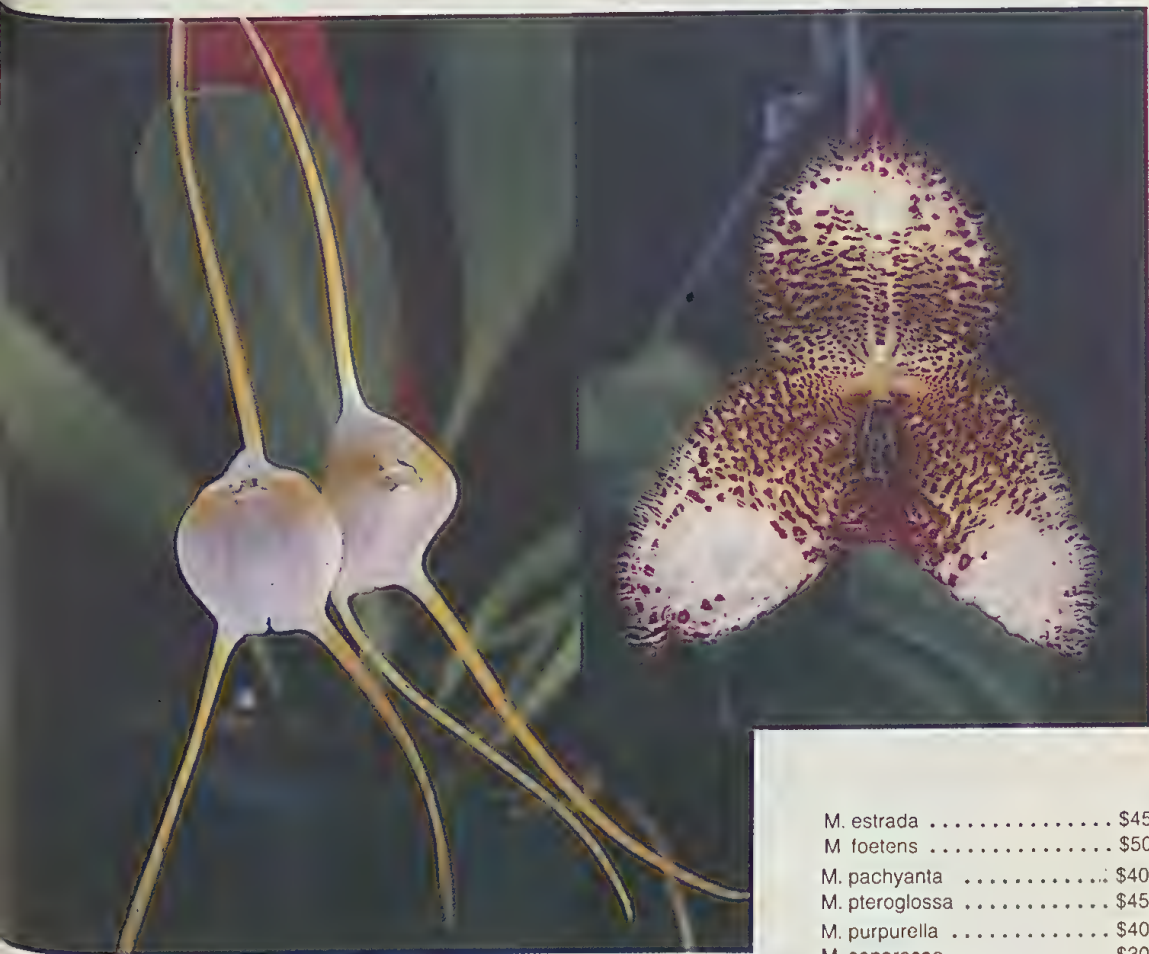
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<i>BLETIA purpurea</i> .....	\$24
<i>BROUGHTONIA sanguinea</i> .....	\$35
<i>BROUGHTONIA negrilensis</i> .....	\$50
<i>BRASSAVOLA cordata</i> .....	\$30
<i>COELIA triptena</i> .....	\$24
<i>DENDROPHYLLAX funalis</i> .....	\$30
<i>EPIDENDRUM nutans</i> .....	\$25
<i>LEOCHILUS labiatus</i> .....	\$24
<i>LYCASTE barringtoniae</i> .....	\$30
<i>ONCIDIUM gauntlettii</i> .....	\$45
<i>ONCIDIUM tetrapetalum</i> .....	\$30
<i>ONCIDIUM luridum</i> .....	\$25
<i>OECEOCLADES maculata</i> .....	\$30
<i>XYLOBIUM palmifolium</i> .....	\$30

# MASDEVALLIAS: DRACULAS

## Nursery-grown (not jungle) plants

### Many "first-in-Australia"



## EASY TO GROW AND FLOWER

This has to be the most exciting collection of Masdevallias and Draculas ever seen here! York has only a handful of each species listed so it's first come first served. But these or any of 150 others (send for list) can be ordered for delivery in about 17 weeks. York learned a few things in Colombia that make Masdevallias/Draculas much easier to grow (Masdevallias cool. Draculas some warmth). York's new culture notes come with each order.

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M. aenigma .....	\$40	M. herradura .....	\$30
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M. carruterciana .....	\$60	M. hieroglyphica .....	\$45
M. caudata .....	\$50	M. ignea .....	\$60
M. caudivolvula .....	\$40	M. macrura .....	\$80
M. coccinea .....	\$40	M. mejiana .....	\$60
M. coriacea .....	\$30	M. mendoza .....	\$100
M. elephanticeps .....	\$80	M. misassii .....	\$80
M. encephala .....	\$75	M. molossus .....	\$40

M. estrada .....	\$45
M. foetens .....	\$50
M. pachyanta .....	\$40
M. pteroglossa .....	\$45
M. purpurella .....	\$40
M. sanarosae .....	\$30
M. schmitzummi .....	\$60
M. scobina .....	\$60
M. septrum .....	\$40
M. stenorhynchus .....	\$60
M. tovarensis .....	\$35
M. trochilus .....	\$45
M. urccolaris .....	\$45
M. veitchiana 'P. de Gaul' .....	\$75
M. xanthina .....	\$60
Dracula chimaera .....	\$45
D. chimaera 'chocolate' .....	\$60
D. gorgona .....	\$60
D. robledorum .....	\$100
D. severa .....	\$60
D. vladtepes .....	\$80
D. wallisii .....	\$60
Restrepia, various .....	\$40

**PICTURED:**  
(left) *Masdevallia mejiana*  
(right) *Dracula gorgona*

(Masdevallias, Draculas, available from June 30th)



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*Cymbidiella rhodochila*

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Exciting new arrivals! Species needing Winter heat are marked (W). Intermediates, (I)

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AERANGIS critrata, waxy cream	..... W	\$35
AER. cryptodon, reddish sepals	..... I	\$35
AER. curnowiana, spring fls.	..... I	\$35
AER. fastuosa, dwarf, spring	..... I	\$35
AER. fuscata	..... W	\$40
AER. modesta, spring	..... W	\$40
AER. stylosa, winter & spring	..... W	\$40
AERANTHES ramosa, olive green	..... W	\$35
ANGRAECUM ankeran	..... I	\$35
ANG. compactum, perfumed summer	..... W	\$35
ANG. dendrobiopsis, autumn	.....	\$35
ANG. eburneum superbum	..... W	\$35
ANG. eburneum typicum	..... W	\$35
ANG. germinyanum	..... I	\$35
ANG. obesum, summer fls.	..... I	\$35
ANG. ramosum arachnites	..... I	\$35
BECLARDIA macrostachia	.....	\$35
CYNORCHIS gibbosa	..... W	\$35
CYNORCHIS ridleyi	..... W	\$35
GASTROCHIS/PHAIUS francoisii	..... W	\$35
JUMELLEA gracilipes, white	..... I	\$35
OEONIELLA polystachys	..... W	\$35
PHAIUS humblotii, pink sepals	..... W	\$35
PHAIUS perrieri	.....	\$40
CYMBIDIELLA rhodochila	..... W	\$200

(Madagascar plants available, Honduras orchids from mid-July.)

Some of these are now so hard to get you have to go to Honduras for them! So York did.

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BRASSAVOLA nodosa, fragrant white	.....	\$25
BRASSIA maculata, yellow-green	.....	\$25
CATASETUM russellianum, green	.....	\$25
CATTLEYA aurantiaca, bright orange	.....	\$25
CYRTOPODIUM punctatum, big, show	.....	\$25
ENCYCLIA adenocaula, rose pink	.....	\$20
ENCYCLIA bractescens, fragrant	.....	\$25
ENCYCLIA brassavolae, green	.....	\$24
ENCYCLIA guatemalensis, yellow lip	.....	\$20
EPIDENDRUM parkinsonianum, green/white	.....	\$25
EPI. stamfordianum, lasting cream/red	.....	\$25
GALEANDRA baueri, pink bunches	.....	\$25
CONGORA truncata, unusual pendulous	.....	\$25
LAELIA rubescens, white or lavender	.....	\$20
LAELIA superbiens, longlived, scented	.....	\$30
LYCASTE aromatica, many gold flowers	.....	\$25
MORMODES aromatica, 'goblin orchid'	.....	\$25
ONCIDIUM altissimum	.....	\$30
ONCIDIUM brachyandrum	.....	\$25
ONC. carthagenense, muleear type	.....	\$25
ONC. leucochilum, white lip	.....	\$25
ONC. luridum, tall stem, variable	.....	\$25
ONC. sphacelatum, "dancing ladies"	.....	\$25
ONC. splendidum, handsome yellows	.....	\$30
PLEUROTHALLIS schneiderae	.....	\$20
RHYNCHOLAEIA glauca, green/ivory	.....	\$25
TRICHOPILEA tortilis, twisted petals	.....	\$25

\*Send for York's COMPLETE list including Asian orchids.

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# Culture of some *Bulbophyllum* species

Roy Gifford



*Bulbophyllum dearei*. Photo: H.G. Page.

In these notes, it must be explained that the cultural methods referred to, in all cases, apply to my own experiences at Ettalong, some 50 miles north of Sydney. The orchid houses are only some 200 metres from the sea, and the climate is fairly predictable.

Winters are mild, with usually two or three very light frosts each year, although occasionally (as in 1986) there comes what is for us, a savage frost when temperatures plunge to 5-6°C below zero.

I have never, in some 20 years, had plants lost from cold, the severe spells causing

some leaf burn and an odd new growth burnt off.

Summers are also fairly predictable, maximums usually around mid 30's, except when dry North Westerly winds blow in late January and February, when I have recorded temperatures in the shade house of 44-45°C. These winds have to be guarded against as they will burn off foliage in a couple of hours, and cook entire plants in a day. I found that erecting a substantial windbreak, and using a micro-mister system during the hottest time of day, was sufficient to lower the temperature and



*Bulbophyllum careanum*  
Photo: A.B. Porter.



raise humidity to comfortable levels for the plants. A word of warning — if misters are used, once turned on they **MUST** be kept on until overall temperatures drop below 35°C. A wet plant exposed to 40°C plus winds does not last long, so unless the mister can be left on, it is better not to use water for cooling, and investigate other means of lowering temperatures.

Unless indicated under discussion of each species, my plants were mounted on slabs of tree fern fibre, cut from butts of *Cyathea australia* ferns, and never allowed to dry out, winter or summer.

Genus: *Bulbophyllum* Thouars Orch. Iles. Afr. 1822

Before discussing individual species in this genus, it may be of interest to some readers to give a short explanation of the nomenclature involved — lest some growers have a plant with a totally different name, and wonder why I have discussed his/her plant as a *Bulbophyllum*.

In the following remarks I have borrowed most lavishly from Gunnar Seidenfaden's book on Thai *Bulbophyllum* species, published in 1979. I will also follow his treatment of Sections, partly because it is the most recent publication on the subject I have seen, and I've not read any severe criticism of his work, and also because it seems the most logical to my amateur eye, bearing in mind that Seidenfaden himself admits that a complete review of the genus is long overdue, and his Sections are not very satisfactory with regard to many species.

The genus *Bulbophyllum* was established by Thouars when the then known species were very few in number, but as more and more species came to the attention of taxonomists, several other genera were established, such as *Bulbophyllaria* Reich f. for some South American species, *Megaclinium* for African species and *Cochlia*, *Lyrea*, *Epicranthes* etc. for various groups of Asian species. Time brought the knowledge of even more species, and it became obvious that species merged into, and out of these generic limits, and most taxonomists now agree that the genera of Lindley in Gen. & Sp. Orch. 1830 are now at best sub-genera or sections of *Bulbophyllum* Thouars. There are now some 2000 odd species within the genus, and to my knowledge no author has attempted a revision and organisation of the genus as a whole. The list of authors who have had a stab at *Bulbophyllum*, usually on a regional basis, reads as a Who's Who of the famous and learned men of the past.

After Lindley, Reichenbach f. tried in Walp. Ann. 6. 1861, where he included the *Trias* species as a section — *Trias* today is a separate genus.

As separate genera Reich. f. kept *Epicranthes*, *Xiphizusa*, *Bolbophyllaria* and *Bolbophyllopsis*, all of which are today included in *Bulbophyllum*.

Blume had a go at the genus in 1848, and Bentham in 1881 listed ten generic names in which he agreed with Blume and Reich. f. that they all more or less should be in



*Bulbophyllum robustum*  
var. *robustum*

Photo: A.B. Porter.

*Bulbophyllum*. In 1883 Bentham in Gen. Pl. 3, listed seven Sections, but the largest *Racemosae*, included several species which had earlier been considered as separate genera.

Pfitzer in 1888 generally agreed with Bentham, but added some new Sections of his own, and excluded some of the earlier taxa.

Hooker f. in 1890 kept *Cirrhopetalum* as a separate genus, established a new genus (*Henosis*) for some species and worked with only four Sections, one of which — *Ione* — is today united with *Sunipia*, and usually placed in another subtribe, after Schlechter.

Ridley in 1896, dealing with Borneo species also kept *Cirrhopetalum* separate, and mentioned six Sections. In the same year he published his first paper on Malaya species wherein he used four Sections.

J.J. Smith in his work on the flora of Java 1905 used six Sections and in 1914 in disagreement with Schlechter, established a few more.

Rudolf Schlechter, in his large work on New Guinea species established 42 Sections — and this working on plants from the then territory of German New Guinea alone.

Holttum in 1957, discussing the Malayan species used 12 Sections which more or less followed J. J. Smith; while A. Dockrill in 1969 in his Vol. 1 of Aust. Indigenous Orchids also followed a regional approach with his 12 Sections — four unnamed.

It seems that the usually very important

diagnostic tool — the flower — is so uniform in its major characteristics, that it is difficult to define clear Sections using floral differences, so great reliance has been placed on vegetative characters, and very much on the type of inflorescence, although even here, the dividing lines are very vague, and I feel that until some author attacks the whole 2000 species en masse, we will continue to have trouble with *Bulbophyllum* names •

2 Warrah Rd, Ettalong 2257

### New artist for R.H.S.

The Royal Horticultural Society of England has appointed Mr David Leigh as Official Artist for the Orchid Committee.

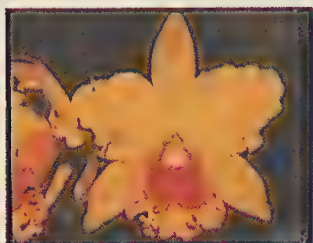
For almost 100 years all Orchid Awards have been painted in life size, and Mr. Leigh is the fifth Official Artist to be appointed. The paintings are consulted at meetings of the R.H.S. Orchid Committee, and form the basis of comparison when awards are made.

### Making Leaves Attractive

Presentation of the plant is essential for the show bench. The leaves can be made attractive by cleaning with soft paper tissues and a 50/50 mixture of milk and water. This mix keeps the leaves natural looking, whereas white oil and water makes them shine too much. Of course, remove all dead stems and leaves first. Also put a layer of fresh compost around the pot.



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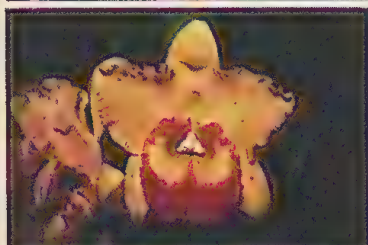
M125. *Blc. MARIGOLD MEADOWS*  
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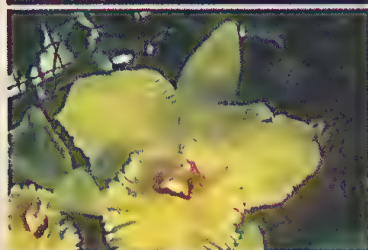
M67 *Lc. ANTOINETTE MAHAN*  
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M103 *Blc. WAIKIKI SUNSET*  
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M77 *Blc. VICKY NAZARENO* 'FONG  
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M30 *Blc. ALMA KEE* 'TIPMALEE'  
Golden Orchid with Red Labellum.

M44 *Blc. FAYE MIYAMOTO* x *Blc.*  
*CHIEF JOSEPH.*

Yellow Flower with Red Labellum.

M71 *Lc. AMBER GLOW* 'MID  
FLORIDA' AM/AOS

Another Golden Orchid with Red  
Labellum.

M74 *Lc. PRISM PALETTE*  
'RAINBOWS' AM/AOS

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M93 *Blc. WAIKIKI SUNSET* 'ESSIE'  
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# *Paphiopedilum emersonii*

A timeless beauty from China

Text: R. D. Kramer. Photography: S. Castelo

In an era where discoveries of *Paphiopedilum* are few and far between the last eight years have seen a dramatic increase in new species described to science. Most of these discoveries have centred in and around mainland China.

Due to the influx of new material, two Japanese botanists, Karasawa and Saito, felt compelled to erect a new subgenus to contain the Chinese species, namely *Paphiopedilum armeniacum*, *micranthum*, *malipoense*, the original *dekenatii* and the new *Paphiopedilum emersonii*. This subgenus was named PARVISEPALUM from the Greek “*parvus*” meaning narrow. This refers to the narrow dorsal sepal which is one of the distinctive characteristics of this group.

In April 1986; correspondence was received detailing the plant habit of another new species — at that time unnamed. This species resembled a *Cypripedium* in floral structure but whose

plant habit was unquestionably that of *Paphiopedilum*. Some months later plants were received in collections around the world and in January 1987, a plant flowered in our collection (the plant photographed). Since no detailed photographic article had yet been submitted, confusion again was rife as to the real identity of *Paphiopedilum emersonii* amongst *Paphiopedilum* enthusiasts. The *American Orchid Advocate* was the first magazine to have published details on the species with a description by Koopowitz and Cribb. However, only one photo was submitted which didn't clearly show the overall colour or structure of the plant. The plant was first flowered by Emerson “Doc” Charles of California, after whom the plant was named.

The latest discovery of this group; *Paphiopedilum emersonii*, from Hainan



*P. emersonii* — the staminode.

Dao Island is by far the largest and most unusual.

The foliage is bright green without any tessellation similar to say *Paphiopedilum adductum* except the former being a much brighter green. The leaves are 15cm to 20cm long with anthocyanin "speckling" at the base. The flowerscape is very short, only 75mm high. The flower superficially resembles that of *Paphiopedilum delenatii*, and is highly fragrant, especially in warm weather. The pollen is granular, another trait more common in *Cypripedium*s.

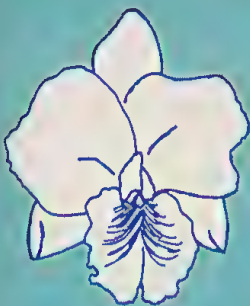
The pouch is rugose and has inrolled margins. Similarities with other section *Parvisepalum* species is immediately evident, however as mentioned previously, leaf mottling is totally lacking in *Paphiopedilum emersonii*. Natural spread of flower was 110mm.

Cultural information about this species is perhaps premature as the species has not been in cultivation long enough to establish any particular requirements. The plants should be kept reasonably dry during the winter with temperatures as low as 8°C. Average temperature would have been 10°C. Normal *paphiopedilum* light requirements.

*P. emersonii* – the whole plant.

Again one must stress that unless this new species is afforded strict protective controls, it too will suffer the persecution of its sister section *Parvisepalum* species •

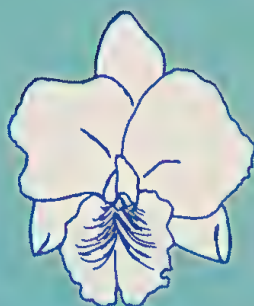
*Wilton Paphiopedilum Research  
Collection*



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| Lyc. aromatica x Lyc. brevispatha                                 | Bif. harrisoniae x Lyc. Kawana |
| Milt. Anne Warne x bluntii  | Milt. bluntii x Odn. Santos    |
| Paph. Copperware x Winston Churchill                              | Paph. philippinensis x self    |
| Den. Canaliculatum x speciosum 'Hillii'                           | Den. Star Blush x Cool Lady    |
| Bcl. Yellow Ball 'Sunshine' x Slc. Hazel Boyd 'Sunset'            |                                |
| Slc. Hazel Boyd 'Redstone' x Bcl. Orange Nugget 'Kadooka'         |                                |
| Bcl. Bouton D'Or 'Lewis' x Bcl. Yellow Ball 'Sunshine'            |                                |
| Sl. Orpetii x L. Starry Sky 'Blumen Insel'                        |                                |
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| Bcl. Sylvia Fry 'Wallacia' x c. Mary Lynn McKenzie                    |                                      |
| Lc. Amberglow 'Magnificent' x Bcl. Oconee 'Mendenhall'                |                                      |
| Slc. Orglades Early Harvest x Bcl. Bouton D'Or 'Halcyon'              |                                      |
| Bcl. Bryce Canyon 'Splendiferous' x Lc. Dark Emperor 'Black Caesar'   |                                      |
| Bcl. Golden Slippers 'Caliph of Bagdad' x Bcl. Yellow Ball 'Sunshine' |                                      |
| Lc. Lisa Ann 'Copper Empress' x Bcl. Oconee 'Mendenhall'              |                                      |
| L. anceps 'Sanderiana' x self   | C. schilleriana x self               |
| C. intermedia 'Inorata' x self  | C. warnerii x self                   |
| Lyc. aromatica x Lyc. brevispatha                                     | Den. Star Blush x Cool Lady          |
| Den. tetragonum Giganteum x speciosum                                 | Den. tetragonum Giganteum x Hastings |
| Bif. harrisoniae x Lyc. Kawana  | C. guttata green x guttata 'Carnea'  |

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# Success with *Disa*

Barry Long



Grown and photographed by Barry Long.

I received five *disa* plants from the Illawarra District Orchid Society in September 1984. They were packed in sphagnum in 3cm x 6cm black pots. I placed them amongst the sphagnum next to the carnivorous pots which I have in the flowering part of my cymbidium glass house.

The glass house is a cool house with no heat. The house is an all glass gable type, north to south length ways with a door on the south side, full length on the north side and a ceiling fan in the middle of the glass house with reversed fan blades. There are two rows of benches about 62cm above the floor. The plants started to grow about two months after replanting. I pulled one of the pots out and noticed a root lead about 20cm long. So I removed the plants from the pots and put them back into the hole from which the pots were taken.

The carnivorous plant box is a foam plastic box 45cm x 62cm and 10cm high

with the carnivorous plant pots placed in a bed of peat and sand on the bottom of the boxes and a thick layer of sphagnum moss pushed around them to the top of the pots. The carnivorous plants grow very well in this environment. So I thought why not grow *Disa* in the same environment? Water is by hose and when it rains I collect a lot of rain water. The only fertilizer is when the plants are at least 30cm high (same as the cymbidiums) and I hose heavily because carnivorous plants cannot stand too much fertilizer or none at all. The shade cloth was 30 per cent and I decided to take it off and replace it with A.D. Springs White Cloth under the glass. This proved very good. The *Disa* plants grew strongly on to 102cm high and the others to 63cm, 64cm and 53cm. The large one had five flowers and the others four, three and two flowers. I pollinated a few of the flowers on 1st February 1987 so I may have a few seedlings •



# SOCIETY NEWS

## Bunbury to host 2nd W.A. Conference

The conference will be held on Saturday 26th and Sunday 27th September, 1987, in conjunction with the Bunbury OS Spring Orchid Show. Venue is the Lighthouse Inn.

Alvin Bryant is to be a guest speaker, also Jane Martin of Mc Beans Australia, Bill Johnson of Glenwood Orchids, and Harry Lodge and Dr Kingsley Dixon. Grand Champion Orchid will receive \$500, and Reserve \$200. Registration will be \$25 single and \$45 double.

Growers for other states should plan to include this conference in a visit to W.A. Secretary is Mr B. Harwood, PO Box 1074. Bunbury 6230.

## New secretary at Maroondah OS

Mrs Emily Spilbergs is now honorary secretary of this major Victorian society. Her address is 36 Orrong Road, Elsternwick 3185.

## The Genus *Corybas*

A reprint of the Kew Bulletin revision *Corybas West of Wallace's Line* is now available. It will be reviewed in the next issue.

## Unique catalogue

The latest Valley Orchids catalogue has a front cover which will surely make it a collectors' item. It features a fine reproduction of a painting by well known South Australian bird artist Jeremy Boot. Two flowers of *Cymbidium* Sleeping Giant 'Tetra King' are shown with a Silvereye (*Zosterops lateralis*) balancing on its stem.

## Fun at Yarra Valley

What a pity AOR didn't receive the fine report on the Yarra Valley O.S. Festival and Workshop in time for the summer edition, and there was just too much other material for the autumn edition.

For the last two springtimes Yarra Valley OS has put on quite remarkable

festivals and workshops extending over whole weekends.

The Society is centred around the upper Yarra Valley, scene of tragic bushfires only three years ago.

It was a fine show with a wide range of quality genera. Lecturers John Scott, Clive Halls, Gerald McCraith and Noel Grundon, passed on their knowledge. Saturday night was a gay country style banquet.

The scale of the affair was a splendid achievement for an individual society. Next spring festival will be a major event which AOR hopes to report in detail.

Thanks to Noel Grundon and Ray Thomson for reports on which the above is based.

## New Society at Esperance

Ron Kerr

Esperance is a scenically fascinating and historically interesting town on the Great Australian Bight. The picturesque coast is dotted with islands of the Recherche Archipelago. Around it are extensive wheatlands, and the port serves the goldfields to the north.

I arrived there last October to find that the second meeting of the Esperance Orchid Society was scheduled for the following night. Gerald McCraith had suggested I contact Don Voigt who had rediscovered the long lost *Caladenia cristata* R.S. Rogers, and arranged with the Australian Orchid Foundation to have the discovery area fenced. Don had Les Hanks, President of the new Society call at my motel, and in no time I was meeting several of the orchid growers.

For such a new society there was a surprisingly large attendance at the meeting. They were all very keen and a few people had quite large collections.

Growers in Esperance have much the same problems as the Adelaide growers, and which the latter have so successfully overcome, namely a dry climate and a

# SOCIETY NEWS

water supply of high pH. The need is for quick draining composts, heavy flushing, and use of rain water where possible.

Visitors to W.A. will find Esperance well worth including in their itinerary, and the growers there will welcome any advice on culture. The secretary is John Aitken, 117 Twilight Beach Road, Esperance 6450.

## North Shore honours Reg

The North Shore OS announced its speaker for 1st April last as John Bisset, and his subject as "Orchid History".

Meanwhile every old member and orchid friend of Reg Trenerry was primed to be present on that night. Arriving at the meeting with President Geoff Hollingworth, Reg remarked, "There's a lot of old faces here tonight?"

"Yes", replied Geoff, "it's funny how a subject like history brings 'em out of the woodwork."

Later, it came as a complete surprise to Reg to learn that this was his night in celebration of 37 years as treasurer of the society since its inception. Surely a record for any orchid society.

It proved a real night of reminiscences for everyone, enlivened by the humour of John Bisset and the direction of Garry Bromley as Master of Ceremonies.

As a double tribute to Reg Trenerry it was announced that he was the first recipient of the Reg Trenerry Award which the society would from that occasion bestow upon deserving recipients for services rendered.

It can be added that Reg served for 12 years as the librarian and a committee member of the OS of NSW. He also served as a judge for over 20 years.

Congratulations Reg.

## Treasure at Figtree

Members of Woolongong branch of ANOS were quick to investigate when a huge branch of a famous figtree (*Ficus macrophylla*) crashed to the ground. This dominating Moreton Bay Fig is just off the

Princes Highway and has given its name to the suburb of Figtree.

The Wolloongong growers checked the amputated warrior's limb and found it covered with orchids. Species included *Dendrobium teretifolium*, *Bulbophyllum exiguum* and the rare *B. minutissimum*, ranked as the world's third smallest orchid flower.

While the latter is rare it has a wide-spread habitat, extending from the south coast, where it was recorded by Leo Cady at Bombaderry to southern Queensland. Hermon Slade has found it at Tweed Heads growing on mangroves. Its almost invariable host is ficus.

The tiny, flattish, green and red pseudobulbs gleam in the light, and the tiny flowers are beautiful. Baron Sir Frederick von Muller named it in 1878. It had been found in the centre of Sydney much earlier (1884) by Archdeacon King.

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Paph Niveum x Carat Gold 'Sunshine' — large yellow x white with spots  
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Paph Winston Churchill 'Indomitable' x Cadence Polonaise' — showbench spotted flowers

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# LETTERS TO THE EDITOR

## GET IT RIGHT!

(AOR WINTER 1986)

Dear Sir,

I cannot let Mr Maurie Black's article "Get it right" pass without a few small comments.

He says "When 'ch' appears at the beginning of a word it is pronounced as in 'child'. This is just not correct for any botanical name of Greek origin of which there are many in the orchid family. Thus, *Chilochista* is KYE-LO-KIST-ER and *Chysis* is KYE-SIS.

The names of people and names of foreign origin are pronounced according to the rules of their own language, e.g. *chiliensis*.

The most helpful books I have found for orchid pronunciation are the Glossary printed by the American Orchid Society and the index to Alex Hawkes' *Encyclopaedia of Cultivated Orchids*.

As these are printed with an American bias, and as I am biased against American pronunciation ever since I found they were sending 'missals' to scare off their enemies a most un-Christian act — we have to take a little care in translating the simplified form of the words supplied into dear old drawling Australian.

Mr Black might also have mentioned the letter 'e' ending greek based species names. This is pronounced the long 'ee', as in 'senilee', 'tortilee', etc.

The Grafton Orchid Society often gives a segment of its meeting to 'Taxonomy without tears'. Usually a few words and their pronunciation and meaning are explained, e.g. the various shades of meaning associated with white, such as album, niveum, candidum, albescens, etc. Yours truly has been the perpetrator of this not easy task. It is all the more difficult as my Latin was learnt uncountable years ago from a Scottish teacher, and my Greek comes from a fondness I have when looking up dictionary meanings to discover also the derivation of the word I seek.



It has never yet helped me to know that *Rhododendron* should be pronounced ROD-O-DEN-DRON or *Tibouchina* as TIBOU-KYE-NA. No one else calls them that and who is left looking the fool?

The language of botany is more heterogeneous than most. It would be silly to be too pedantic about how to say words of Latin origin as we have little to guide us in this except the strict cadences of Latin poetry. But all knowledge is food for the brain and does not this country cry out for well fed brains?

Ruth Rae  
Grafton

### Editor's comments

*Mrs Rae's comments and those in the authoritative letter by Mr Gordon Morrison in the Summer '86 issue present a balanced view on nomenclature and pronunciation.*

*All language is subject to evolutionary adaption and perhaps the best approach to botanical names is to be tolerant to minor variations in spoken intercourse, demanding of correctness by lecturers, and expectant of precision in written papers. Above all if we are serious growers of orchids we should feel obligated to learn to use orchid names correctly.*

*Further ideas from readers on this subject are welcome.*

# Funny Story Competition

We had a marvellous response to the Funny Story Competition announced in the last issue. It was difficult for the *Australian Orchid Review* judging panel to come to a decision. This issue's winner is Mrs D. Woodley of Southport, Queensland for "Orchid-itis". Congratulations Mrs Woodley. We will send you a copy of "Orchids in Australia" (Worth \$49.95. See advertisement P.42)

## "ORCHID-ITIS"

BY D. Woodley, Southport Qld

Yes!, I admit it, I have "Orchid-Itis".

It is permanent, quite incurable, in fact one symptom is that anyone afflicted with this disease *does not* want to be cured!

Symptoms usually start to appear with the first orchid you own, whether it has been given to you as a gift, won in a raffle or actually purchased by yourself at an orchid society show or display or from nursery.

That's it!, It's too late now, you already have "Orchid-Itis". The next symptom soon appears, who ever owns *just one* orchid? Before you can say *Dendrobium bigibbum* var *superbum* you find that you have purchased a second and then a third orchid.

What's that? You hate odd numbers? Well you had better buy a fourth, just to even the numbers up. Soon it's 5, 6, 7, 8, etc. You can't stop!

It's not long until you realise that you need an orchid house, as you are running out of space in the sunroom. So the big move is on, from the sunroom to a "luxury environment to suit all ages", from your old favourite, to the new baby *cattleya* seedling just arriving on the doorstep.

Well, the rest is history, you have now reached the point of no return, the fully developed phase of "Orchid-Itis".

Catalogues arrive in your mailbox regularly, and you study them thoroughly, checking up on their parentage before paying out your well earned savings on some more little beauties for your rapidly expanding collection.

Miraculously, weekend outings seem to



end up conveniently near an orchid nursery, "How about that!" Let's just have a quick look through".

It's amazing how long a "quick look through" can really take.

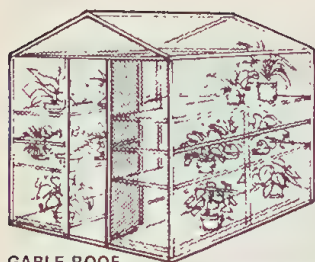
So you make your way home again armed to the teeth with the newly acquired additions to your menagerie of orchids, which can contain such things as "Tigers, Seagulls, Pandas, Flamingos, Kittens," etc, a real zoo.

Another symptom appears to afflict some people, they collect plants that just happen to have the names of beloved members of their families. What a good excuse to add to their collection!

Well, I'm positive *I* will never be cured of "Orchid-Itis", so I will continue to enjoy it thoroughly. After all life is too short to miss out on all the beauty, fascination and knowledge that "Orchid-Itis" can bring to us all •

Deadline for Spring Funny Story Competition is July 15th 1987.

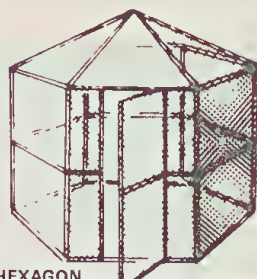


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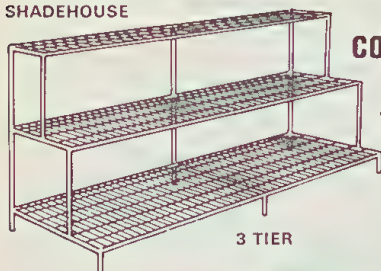
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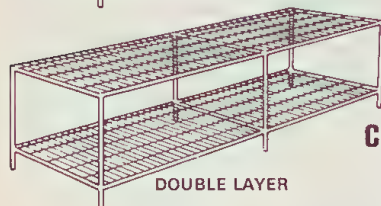
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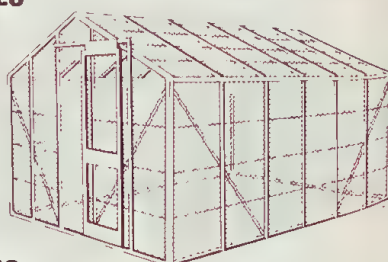
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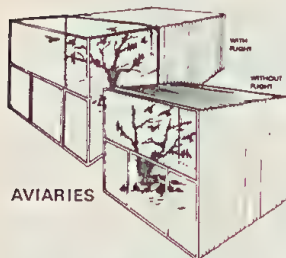
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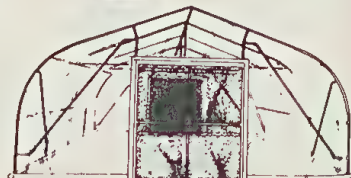
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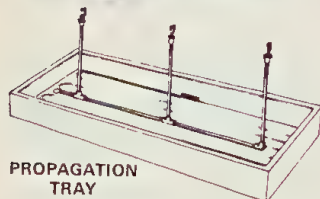
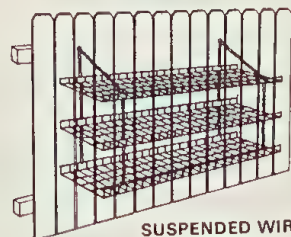
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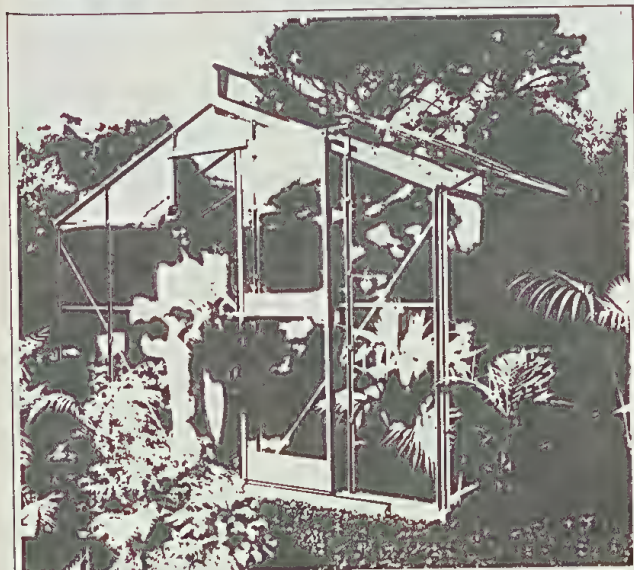
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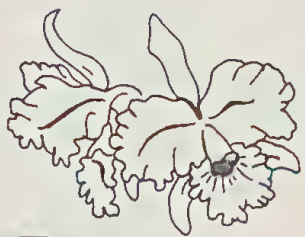
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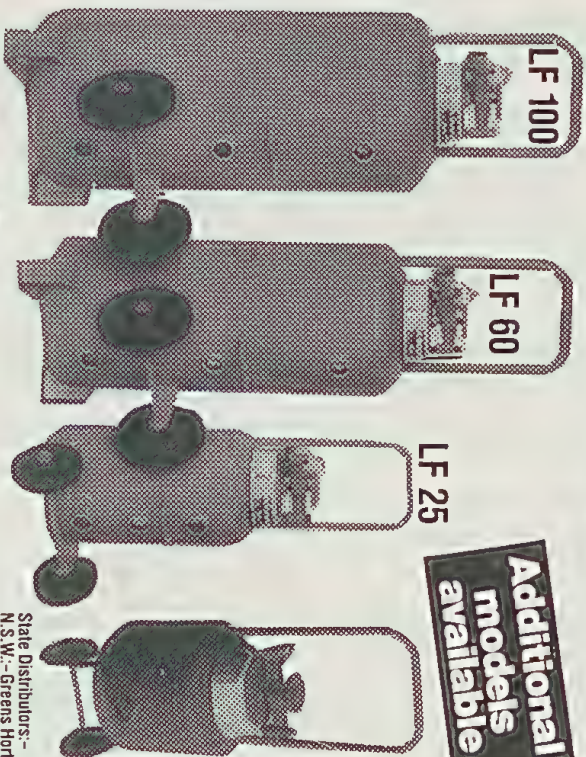
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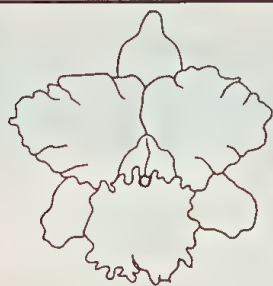
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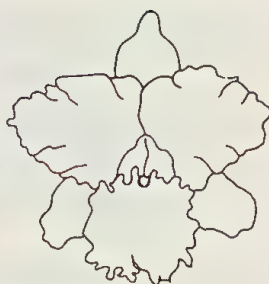


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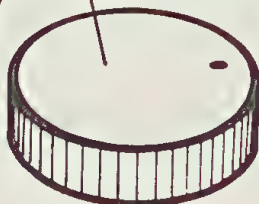


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# SHOW DATES

The list includes all information available at time of going to press. Some societies have not completed arrangements in time for this issue. The address of the last known secretary is given. Would societies please advise changes or additional information. At the end of each listing we have included the regular meeting dates (where supplied) e.g. 1st Mon — the society meets on the first Monday of every month.

## NSW — SYDNEY AREA

**Orchid Society of NSW.** WINTER. Ashfield Shopping Mall. Set up Sun 21/6 to Sat 27/6. Theme "Australiana". SPRING. Royal Botanical Gardens. Judging Sat 27/9 to Sun 3/10. Entrance \$2.00. Sec: Miss B. Oldfield, Mountford Rd Guilford 2161, phone (02) 872 5587.

**Bankstown OS.** WINTER. Bankstown Shopping Square. Mon 20/7 to Sat 25/7. SPRING. Same venue. Mon 7/9 to Sat 12/9. Sec: Christine Clark, 82 Robertson Rd, Bass Hill, 2197, phone 644 9025. 1st Mon.

**Blue Mountains and District.** WINTER. Melrose Hall, Cnr Great Western Highway and Park St, Emu Plains. Sat 6/6 to Mon 8/6. SPRING. Same venue. Sat 3/10 to Mon 5/10. Sec: Mr D. Burns, P.O. Box 39, Emu Plains, 2750, phone (047) 31 4167.

**Cumberland Orchid Circle.** WINTER. Castle Towers Shopping Centre, Castle Hill. Thurs 2/7 to Sat 4/7. SPRING. Same venue. Wed 2/9 to Sat 5/9. Sec: Mrs E. Lyttle, 25 Bishop Ave, West Pennant Hills, phone 84 4611. 4th Wed.

**Eastern Suburbs.** WINTER. St Luke — Cr Varna & Arden Sts, Clovelly. Mon 15/6. SPRING. Same venue. Mon 21/9. Sec: Mr Barry Collins, 245 Avoca St, Randwick, 2031, phone 398 6448. 3rd Mon.

**Eastwood & District Orchid Circle.** SPRING. Macquarie Shopping Centre. Tues 15/9 to Sat 19/9. Sec: Mrs Gloria Spinner, 30 Providence Rd, Ryde, 2112, phone 807 6727. 1st Wed.

**Five Dock RSL OS.** WINTER. Five Dock RSL Auditorium. Wed 22/7. SPRING. Marketown, Marion & Flood Sts, Leichhardt, 2040. Mon 28/9 to Sat 3/10. Sec: Mrs Kathleen Jones, 48 Waremba Street, Five Dock, NSW 2046, phone 713 8124. 4th Wed.

**Hawkesbury District OS.** WINTER. Melrose Hall Emu Plains (Blue Mount OS is the host society). SPRING. Location to be advised. Sat 5/9 to Sun 6/9. Sec: Mrs Ann Terbutt, 33 Joanna Street, South Penrith, 2750, phone (047) 36 2230. Mon.

**Ku Ring-Gai OS.** Sec: Ron Hood, 343 Somerville Rd, Hornsby Hts 2077, phone 476 2908. 3rd Mon.

**Mainly Warringah OS inc.** WINTER. Warriewood Shopping Square — Jacksons Rd, Warriewood. Thurs 28/5 to Sat. 30/5. SPRING. Mona Vale Memorial Hall — Park St, Mona Vale. Fri 28/8 to Sun 30/8. Sec: Ray

Kazlauskas, P.O. Box 385 Dee Why 2099, phone 46 2371. 4th Thurs.

**North Shore OS.** WINTER. Lemon Grove Chatswood. Mon 20/7 to Sat 25/7. SPRING. Gordon Centre & Gordon Village Arcade. Mon 7/9 to Sat 12/9. Sec: Ruth Rudkin, 18 Lyle Ave, Lindfield, 2070, phone 46 4306. 1st Wed.

**The Lidcombe Hospital OS.** WINTER. Meeting Hall, Hospital Grounds, Lidcombe. Tues 28/7. SPRING. Upper Recreation Hall, Lidcombe Hospital, Joseph St, Lidcombe Fri 4/9 to Sat 5/9. Sec: Mr Peter Moxham, 4 Rogers St, Merrylands 2160, phone 682 4536. 2nd Wed.

**Panania — East Hills RSL OS.** SPRING. Panania Senior Citizens Centre, Anderson Ave, Panania. Sat 19/9. Sec: Mr N. Bates, 7 Oatley Place, Padstow Heights 2211, phone 772 2405. 1st Tues.

**Parramatta & District OS.** WINTER. Wentworthville Community Centre Hall. Tues 28/7. SPRING. Carlingford Court Shopping Centre, Carlingford. Mon 7/9 to Sat 12/9. Sec: Graeme Banks, 183 Windsor Rd, Northmead 2152, phone 639 4815. 4th Tues.

**St George District OS.** WINTER. Uniting Church Hall, Bay St, Rockdale. Tues 7/7. SPRING. Same venue. Tues 1/9. Sec: Mrs Jean W. Slattery, 12 Eddystone Road Bexley 2207, phone 50 7985 1st Tues.

**Southern Districts Combined OS.** SPRING. Westfield Shopping Town, Hurstville. Mon 3/8 Sat 8/8. Sec: E. Beehag, 14 Neville St, Oatley, 2223, phone 570 2668.

**Sydney OS.** WINTER. 220 Lakemba St, Lakemba (Rememberance Hall). Thurs 11/6. SPRING. Same Venue. Thurs. 10/9. Sec: Betty Clare, 75 Quigg St, Lakemba 2195, phone 759 6166. 2nd Thurs.

**Western Suburbs OS.** SPRING. Woodstock Community Centre. Church St, Burwood. Sun 13/9. Sec: Mr Leo Gleeson, 87 Stoddart St, Roselands 2196, phone 759 5948. 2nd Tues.

**The Sutherland Shire OS.** WINTER. Gymea Bowling & Recreation Club, Gymea. Sat 4/7 to 5/7. SPRING. Same venue. 12/9 to 13/9. Sec: Mrs G.H. Withers, 19 Davey Ave, Jannali 2226, Phone 528 9045. 2nd Mon.

## NEWCASTLE AND CENTRAL COAST

**Newcastle Combined OS.** WINTER. Stockland Mall, Blue Gum Rd, Jesmond. Wed 22/7 to Sat 25/7. SPRING. Lake Fair Wilsons Rd Mt Hutton. Wed. 23/8 to Sat 26/8. Sec: M. Parlour, 2 Kullaroo Rd, Charlestown, phone (049) 43 7768.

**Newcastle OS.** SPRING. Saint Andrews Church Hall, Church St, Mayfield. Thurs 3/9 to Sun 6/9. Sec: Mrs Jan Blackwell, 114 Springfield Ave, Kotara South 2289, phone (049) 57 2992. 3rd Wed.

**Boolaroo OS.** SPRING. Stockland Mall, Jesmond Centre, Bluegum Road, Jesmond. Thurs 17/9 to 19/9. Sec: Brian Moore, 4 Catherine St, Kotara South 2288, phone (049) 43 3790. 1st Wed.



**Gosford & District OS.** WINTER. Marketown Shopping Centre, Henry Parry Drive, Gosford. Mon 6/7 to Sat 11/7. SPRING. Same venue. Mon 7/9 to Sat 12/9. Sec: Mr R. Peterson, 21 Grosvenor Rd, Terrigal 2260, phone (043) 84 6368. 4th Wed.

**Gloucester OS** SPRING. Sat 19/9. Sec: Mrs Gloria Maurer, Wheatleys Rd, Stratford, 2422, phone (065) 58 8218. 3rd Thurs.

**Great Lakes OS.** SPRING. Forster Primary School, West St Forster. Sat 3/10 to Sun 4/10. Sec: Eric Hastings, P.O. Box 273 Forster 2428, phone (065) 54 8117. 2nd Tues.

**Hastings River OS, Wauchope.** SPRING. CWA Hall, High St, Wauchope, 2446. Fri 25/9 to Sat 26/9. Sec: Mrs J Lester, P.O. Box 193, Wauchope, 2446. Phone (065) 85 1502. 2nd Fri.

**Maitland & Coalfields District OS.** SPRING. Maitland Toyota Showroom (Opp Maitland Town Hall). Thurs 10/9 to Sat 12/9. Sec: Eddie Hunt, Lot 12 Windemere Rd Lochinvar 2321, phone (049) 30 7300. 2nd Thurs.

**Manning River OS.** WINTER. Manning Mall, Taree. Thurs 9/7 to Sat 11/7. SPRING. Same venue. Mon 7/9 to Wed 9/9. Sec: Ray Clement, P.O. Box 797 Taree, phone 52 4087. 1st Fri.

**Morisset & Lakes District OS.** WINTER. Lakehaven Shopping Centre Gorokan. Wed 8/7 to Sat 11/7. SPRING. Charlestown Shopping Square. Wed 26/8 to Sat 29/8. Sec: Brian Jacob, Lot 8, Warnervale Rd, Warnervale, phone (043) 92 2702. 2nd Tues.

**Port Macquarie OS.** SPRING. Settlement City Shopping Complex, Port Macquarie. Thurs 17/9 to Sat 19/9. Sec: Mr George Parkes, P.O. Box 928 Port Macquarie, phone (065) 83 3265. 4th Wed.

**Tamworth OS Inc.** SPRING. K Mart Plaza, Peel St, Tamworth. Thurs 24/9 to Sat 26/9. Sec: Barre Edward Schweitzer, 40 Kent St, West Tamworth, (067) 65 8041.

**Nambucca Valley OS.** SPRING. School of Arts, Ridge St. Nambucca Heads. Fri 4/9 to Sat 5/9. Sec: Bob Locke, 21 Jellicoe St, Macksville, phone (065) 68 1880. 1st Mon.

## NSW — SOUTH AND WEST

**Albury-Wodonga & District OS.** WINTER. Wodonga Continuing Education Centre. Sun 29/8. SPRING. Albury High School Stadium Kiewa St, Albury. Sat 10/10 to Sun 11/10. Sec: Mr G. Milton, 665 Jones St, Albury, phone (060) 21 4770. 1st Tues.

**Campbelltown & District OS.** WINTER. Macarthur Square Shopping Complex. Thurs 16/7 to Sat 18/7. SPRING. Same venue. Thurs 17/9 to Sat 19/9. Sec: F. Fish, 10 Farrangobilly St, Heckenburg. Phone 668 1672. 2nd Tues.

**Griffith OS.** SPRING. Wade High School, Poole St, Griffith. Sat 3/10 to Sun 4/10. Sec: Mrs Binnie Raphael, Box 225 P.O. Griffith, (069) 62 2201. 1st Mon.

**Illawarra District OS.** WINTER. Warrawong Shopping Centre Warrawong. Thurs 16/7 to Sat 18/7. SPRING. Same venue. Thurs 3/9 to Sat 5/9. Sec: Mr R. Nelson, 76 Cathedral Rocks Ave, Kiama Downs 2533, phone (042) 37 7894. 3rd Tues.

**Orchid Society of Canberra.** SPRING. Phillip College, Launceston St, Phillip. Sat 26/9 to Sun 27/9. Sec: Glynis Alford, 15 Edlington St, Fraser, ACT 2615, phone (062) 58 3469. 1st Tues.

**Sapphire Coast Orchid Club.** WINTER. Kalaru Nursery, Kalaru, via Bega 2550. Sun 23/8. SPRING. Norm Honey Motor Show Rooms, Carp St, Bega, 2550. Fri 2/10 to Sat 3/10. Sec: M. Cochrane, 136 High St, Bega, phone (0649) 2 2949. Last Thurs.

**Shoalhaven OS.** WINTER. Presbyterian Church Hall, Kinghorn St, Nowra. Sat 18/7. SPRING. Same venue. Fri 18/9 to Sat 19/9. Sec: Mr Stuart Crowther, 4 Amber Place Bomaderry, phone (044) 21 2186. 1st Mon.

**Southern Riviera OS.** SPRING. Milton Ulladulla. Sat 3/10 to Sun 4/10. Sec: Mrs Catherine Key, Box 124 P.O. Milton 2538, (044) 55 4011. 2nd Mon.

**South Coast OS.** WINTER. Westfield - Figtree. Tues 21/7 to Sat 25/7. SPRING. Same venue. Monday 14/9 to Saturday 19/9. Sec: Miss Meriam Latten, 16 Stonehaven Rd, Stanwell Tops, phone (042) 94 1409. 1st Mon.

**Wagga Wagga OS.** SPRING. Sturt Public School, Koorlingal. 26/9 to 27/9. Sec: John Cosier, P.O. Box 224 Koorlingal, phone (069) 25 2718. 4th Wed.

## NSW — NORTH COAST

**Alstonville & District OS.** SPRING. RSL Hall, Bugden Ave, Alstonville. Sat 5/9. Sec: Mr Jim Vane, P.O. Box 51, Alstonville 2477, phone (066) 28 0267. 2nd Wed.

**Ballina & District OS.** SPRING. The Player's Theatre, Swift St, Ballina. Fri 11/9 to Sat 12/9. Sec: Mr D. Barling, P.O. Box 399 Ballina NSW 2478, (066) 86 4094. 1st Saturday.

**Casino & District OS.** SPRING. RSL Hall, Canterbury St, Casino. Fri 24/9 to Sat 25/9. Sec: Mrs Norma Anderson, P.O. Box 303, Casino 2470, phone (066) 62 3685. 4th Fri.

**City of Lismore OS.** SPRING. Lismore City Hall. Thurs 10/9 to Sun 13/9. Sec: Mrs R. Muldoon, 21 Taylor Avenue, Goonellabah, NSW 2480, phone (066) 24 1063. 3rd Tues.

**Coffs Harbour OS.** SPRING. Palm Centre, High St, Coffs Harbour. Mon 14/9 to Saturday 19/9. Sec: Mr Stephen Clemesha, Lot 6, Skinner Close, Avocado Heights, Woolgoolga 2456, phone (066) 53 6937. 1st Thurs.

**Evans Head and District OS.** SPRING. Woodburn Hall Pacific Highway, Woodburn. Fri 18/9 to Sunday 20/9. Sec: Mrs B. Rose, 16 Cedar St, Evans Head, 2473, phone (066) 82 4707. 3rd Thurs.

**Tweed District OS.** WINTER. Tweed Mall, Tweed Heads. Thurs 7/5 to Sat 9/5. SPRING. Tweed City, South Tweed Heads. Thurs 3/9 to Sat 5/9. 2ND SPRING. Sunnyside Murwillumbah. Thurs 1/10 to Sat 3/10. Sec: Don Capner, Kiel Vale, via Murwillumbah, phone (066) 72 1375. 3rd Thurs.

## VICTORIA URBAN

**Victorian Orchid Society.** WINTER. Parkmore Shopping Centre. Mon 20/7 to Sat 26/7. SPRING. Fri 25/9 to Sun 27/9. St Johns Church of England Hall, Camberwell 3124. Sec: Mrs I Hutchins, 37 Elliot St, Mordialloc 3195. Ph 580 4917.

**Maroondah OS.** SPRING. Nunawading Arts Centre, Whitehorse Road, Nunawading 3131. Sat 26/9 to Sun 27/9. Sec: Emily Spilbergs, 36 Orrong Road, Elsternwick 3185, Vic.

**Maribyrnong OS.** SPRING. Old Shire Hall, Cnr Calder Hwy & Kennedy St. Sat 19/9 to Sun 20/9. Sec: Mrs D. Davis, C/o Post Office Elphinstone 3448.

**Melbourne Eastern OS.** SPRING. Mechanics Institute Drummond St. Oakleigh., Wed 7/10 to Sun 11/10. Sec: R. McHutchinson, 1 Highfield Rd, Chadstone 3148. Mon.

**Mornington OS.** SPRING. Karingal High School, Ashleigh Ave, Frankston. Sat 10/10 to Sun 11/10. Sec: Mark Blair, 40 Ninth Ave, Rosebud, Vic 3939.

**Orchid Species of Victoria** SPRING. Nundawading Horticultural Centre, Jalimont Rd, Forrestville Vic. Sat 19/9 to Sun 20/9. Sec: Miss Jacinta Burke, P.O. Box Bentleigh East Vic 3165. 2nd Mon.

**Ringwood OS.** SPRING. Eastland Shopping Centre, 171 Maroondah Highway Ringwood Vic. Mon 5/10 to Sat 10/10. Sec: Lee Duffield, P.O. Box 11 Ringwood East Vic 3135.

**Warrigal OS.** WINTER. 60 Macarthur Rd, East Ivanhoe 3079. Wed 15/7. SPRING. Heidelberg Technical School Hall, Cnr Bell St & Waviserdale Rd, Heidelberg. Sat 10/10 to Sun 11/10. Sec: Mrs M. Murray, 60 Macarthur Rd East Ivanhoe 3079.

## VICTORIA COUNTRY

**Ararat OS.** SPRING. Fri 16/10 to Sun 18/10. Sec: Ron Selwood, Selwood Road, Ararat 3377.

**Bairnsdale and District OS.** SPRING. B.R.E.C. Centre, Bairnsdale, McKean St (High School & Tech School Grounds). Fri 25/9 to Sat 26/9. Sec: Kath Edwards, P.O. Box 221 Bairnsdale 3875.

**Bendigo Orchid Club** SPRING. RSL Hal, Pall Mall, Bendigo. Sat 9/10 to Sun 11/10. Sec: M. Chalbley, P.O. Box 705, Bendigo. 2nd Wed.

**Geelong Orchid and Indoor Plant Club.** SPRING. Centenary Hall, Cox Rd, Morlane. Sat 26/9 to Sun 27/9. Sec: Mr L. J. Dale, 88 Albert St, Geelong West 3218, phone (052) 9 7906. 1st Thurs.

**The Goulburn Valley Orchid Club.** SPRING. Civic Centre Shepparton. Tues 3/11 to Wed 4/11. Sec: Mrs Betty Church, 46 Orr St, Shepparton 2630, phone (058) 22 1575. 1st Mon.

**Horsham OS.** SPRING. Horsham High School Assembly Hall, Fri 25/9 and Sun 27/9. Sec: Mervyn Ellis, C O Mervyn Ellis RMB 5332 Horsham 3400.

**Midlands OS.** SPRING. The Library Hall, Barker St, Castlemaine Vic. Fri 23-10 to Sun 25/10. Sec: M. Christmas, P.O. Box 264 Castlemaine 3450, phone (054) 76 2376.

**Yarra Valley OS.** SPRING. Warburton Civic Centre, Sat 17/10 to Sun 18/10. Sec: R.A. Searle, 9 Talarno Ave, Vermont 3133, phone (03) 221 5898.

## NORTHERN QLD

**North Queensland Orchid Society.** WINTER. Cairns Showgrounds. Wed 22/7 to Sat 24/7. Sec: Mr L. Gliddon, P.O. Box 1024, Cairns 4870. phone (070) 51 5385. 2nd Mon. Education Centre, Morehead St, Bungalov.

**Ayr & District OS.** SPRING. Coutts Mall, Queens St. Ayr. Wed 30/9 to Thur 1/10. Sec: Mrs A. Tait, P.O. Box 412 Ayr 4807, phone (077) 83 3586. 1st Tues.

**Blackwater & District Orchid & Foliage Club.** Sec: Mr P. Taylor, P.O. Box 391 Blackwater 4717, phone

(079) 82 5223. 1st Wed. (except January) Blackwater High School.

**Bundaberg OS.** Sec: N. Maughan, Seaview Rd, Bagara, phone (071) 79 2258. 3rd Thurs. 7.30pm Uniting Church Hall Skyring St, East Bundaberg.

**Boyne Tannum Orchid & Foliage Society.** Sec: Mr D. Bundesen, P.O. Box 159, Tannum Sands 4680, phone (079) 73 8236. 1st Thurs. CWA Hall, Steel St, Tannum Sands.

**Callide Valley Orchid & Foliage Society.** Sec: Mrs M. Saal, P.O. Box 706, Biloela 4715, phone (079) 92 1408. 1st Fri. 7.30pm. Teachers Room, State Primary School, Biloela.

**Capricorn Orchid & Foliage Club.** Sec: Mrs N. Cahill, P.O. Box 697 Rockhampton, 4700, phone (079) 28 5717. 2nd Fri (except Jan). 7.30pm. Orange Grove Hall, Alexandra Street, North Rockhampton.

**Childers & Isis District OS.** SPRING. Isis Cultural Centre, Churchill St, Childers. Late September. Sec: Mrs B. Rex, Macadamia Crt. Woodgate, phone (071) 26 8707. 1st Mon.

**Chinchilla Orchid & Bush-house Assn.** Sec: Mrs S. Robertson, P.O. Box 340, Chinchilla 4413, phone (074) 62 8160. 3rd Mon. RSL Community Room Heeney St.

**Emerald Orchid & Foliage Society.** Sec: Mrs K. Christian, P.O. Box 703, Emerald 4720, phone (079) 82 1027. 2nd Sat. Phone sec for venue.

**Gladstone Orchid & Foliage Society.** Sec: Mrs N. Merritt, P.O. Box 867, Gladstone 4680, phone (079) 78 2408. 1st Wed. Gladstone Bowls Club, Ferris St.

**Herbert River Orchid & Allied Plants Society.** Sec: Mrs C. Jordan, P.O. Box 304, Ingham 4850. Phone (077) 76 1496. 2nd Thurs. Uniting Church Hall, Herbert St, Ingham.

**Innisfail OS.** WINTER. Pease Park, Innisfail, Thus 9/7 to Fri 10/7. Sec: Mrs C. Huddy, P.O. Box 475 Innisfail, 4860, phone (070) 63 2365. 1st Mon.

**Mackay & District OS.** SPRING. Canelands Shopping Centre, Mackay. Thurs 10/9 to Sat 12/9. Sec: Mrs B. Gilotti, P.O. Box 776, Mackay 4740, phone (079) 55 1308. 3rd Thurs.

**Mareeba & District Orchid & Pot Plant Culture Society.** Sec: Mr A. Douglas, P.O. Box 504, Mareeba 4880, phone (070) 92 1064. 2nd Tues (except Dec & Jan) Presbyterian Hall, Walsh St, Mareeba.

**Proserpine Orchid & Foliage Plant Society.** Sec: Mrs V. Stevenson, P.O. Box 55, Proserpine 4800, phone (079) 46 1291. 4th Tues 8pm. CWA Hall, Faust St, Proserpine.

**Rockhampton OS.** Sec: Mr D. Pass, P.O. Box 5949, Rockhampton Mail Centre, 4702, phone (079) 28 7477. 4th Tues. 8pm. Uniting Church Hall, Musgrave St, North Rockhampton.

**Townsville District Orchid & Allied Plants Society.** SPRING. Nathan Plaza, Aitkenvale. Thurs 15/10 to Sat 17/10. Sec: Mr W. Summers, P.O. Box 663 Hermit Park, Townsville 4812, (077) 79 2178. 3rd Tues.

**Townsville OS.** SPRING. City Council Admin. Bldg, Townsville. Fri 18/9 to Sun 20/9. Sec: Mrs S. Goldsworthy, P.O. Box 83, Townsville, 4810, phone (077) 75 5003. 4th Fri.

**Tropical Queensland Orchid Council** Sec: Mrs M. Shoesmith, PO Box 9, North Mackay, 4740, phone (079) 57 5761.



**Tully & District OS.** Sec: Mr A. Euston, P.O. Box 648, Tully 4854, phone (070) 68 1545. 2nd Mon. 7.30pm. Q.C.W.A. Hall Plumb St, Tully.

## SOUTHERN QLD

**Queensland OS.** SPRING. Riverside Ballroom, New Farm. Fri 21/8 to Sun 23/8. Sec: Mrs N. Parsons, GPO Box 2002 Brisbane 4001, phone 273 1127. 2nd Mon.

**Aspley OS Inc.** SPRING. Community Hall, Wavell Heights. Sat 19/9 to Sun 20/9. Sec: Mr R. Fender, P.O. Box 67 Aspley 4034, phone 359 9736. 1st Thurs.

**Australian Native OS Gold Coast Group.** WINTER. Owen Park, Southport. Fri 28/8 to Sun 30/8. SPRING. Mudgeeraba Showground. Sat 10/10 to Sun 11/10. Sec: Mrs J. McDonald, P.O. Box 582 Palm Beach 4221. Last Sun.

**Brisbane OS.** Sec: Mrs P. Crittenden, P.O. Box 94 Stones Corner 4120, phone 397 3418. 4th Tues, 8pm. Holy Trinity Church Hall, Hawthorne Street Woolloongabba.

**Caboolture OS.** Sec: Mr G. Stebhens, P.O. Box 549, Caboolture, 4510, phone (071) 95 1577. 1st Wed. 7.30pm. Combined Services Club Hall, Hayes St, Caboolture.

**Craigslea Orchid Club.** Sec: Mrs B. Lingwood, P.O. Box 17, Stafford 4053, phone 261,3286. 2nd Fri, 7.45pm. Craigslea High School, Hamilton Rd, West Chermside.

**Darling Downs Orchid Association.** SPRING. Venue to be decided. Sat 19/9 to Sat 26/9. Sec: Mrs S. Stone, P.O. Box 3216, Town Hall Toowoomba 4350, phone (076) 32 6513. 3rd Thurs.

**Eastern District OS.** SPRING. Wondall State High School, Wondall Rd, Wynnum West. Sat 5/9 to Sun 6/9. Sec: Mr A. Robinson, P.O. Box 60 Wynnum Central 4178, phone 396 3192. 4th Thurs.

**Glasshouse Country OS.** SPRING. School of Arts, Simpson St, Beerwah. Thurs 24/9 to Sat 26/9. Sec: Mrs E. Lanham, P.O. Box 21, Beerwah 4519, phone (071) 94 1074. 2nd Thurs.

**Gold Coast OS.** Sec: Mr R. Rohde, P.O. Box 323, Burleigh Heads 4220, phone (075) 35 1079. 2nd Sun. 1.30pm. Masonic Hall, 1st Ave, Burleigh Heads.

**Gympie & District OS.** Sec: Mrs C. Visini, P.O. Box 52, Gympie 4570, phone (071) 82 1574. Last Tues. 8pm. TAFE Centre, Nash St, Gympie

**Hervey Bay OS.** Sec: Mr A. Bennett, P.O. Box 26, Pialba 4655, phone (071) 28 9962. 1st Mon. CWA Hall Bideford St, Torquay.

**Ipswich OS.** Sec: Mr C. Murray, P.O. Box 272, Ipswich 4305, phone 288 8041. 1st Wed. Humanities Bld. Nicholast St, Ipswich.

**John Oxley District OS.** WINTER. Mt Coot-tha Bot. Gardens. Sat 26/7 to Sun 26/7. Sec: Mrs J. Imray, P.O. Box 205 Corinda 4075, phone 379 6733. 2nd Wed.

**Logan & Albert Orchid & Foliage Society.** Sec: Mrs N. Goeldner, 12 Birnam St, Beaudesert 4285, phone (075) 41 2389. 3rd Wed. CWA Hall, Brisbane St, Beaudesert.

**Maroochydore OS inc.** SPRING. Senior Citizens Hall, George St, Maroochydore. Thurs 13/8 to Sat 15/8. Mrs M. Smith, P.O. Box 382, Maroochydore 4558, phone (071) 43 2621. 3rd Wed.

**Maryborough District OS.** SPRING. St Pauls Memorial Hall, Adelaide St, Maryborough. Thurs 17/9 to Sat 19/9. Sec: Mr G. Fuller, P.O. Box 389, Maryborough 4650, phone (071) 22 2236. 2nd Tues.

**Mt Coot-tha Day OS.** Sec: Mrs M. Williams, P.O. Box 32, Paddington 4064, phone 379, 3541. 1st Tues. 9.30am. Mt Coot-tha Botanic Gardens Auditorium.

**Native OS.** Sec: Mrs V. Swaffer, P.O. Box 159, Broadway 4006, phone 38 3758. 1st Mon. (except Jan.) 8pm. Bread House, 49 Gregory Tce, Brisbane.

**Noosa District Orchid & Foliage Society.** SPRING. Baptist Church Hall, Noosaville. Fri 21/8 to Sat 22/8. Sec: Mrs C. Anderson, 18 Fairway Drive, Tewantin 4565, phone (071) 47 1570. 3rd Mon.

**North Albert & District OS Inc.** SPRING. Oldmac Toyota Showrooms, Pacific H'way Springwood. Sec: Mrs M. Tierney, PO Box 411, Woodridge 4114, phone 341 5174. 3rd Tues.

**North Brisbane OS.** SPRING. Mt Coot-tha Botanic Gardens Auditorium. Sat 5/9 to Sun 6/9. Sec: Mr M. Lysaght, P.O. Box 325, Nundah 4012, phone 359 9453. 4th Thurs.

**North Coast OS Nambour Inc.** SPRING. Thurs 3/9 to Sat 5/9. Sec: Mrs L. Paroz, P.O. Box 140, Nambour 4560, phone (071) 45 9348, 4th Mon.

**North Moreton Queensland Orchid Council.** WINTER. Community Centre, Edinburgh Castle Rd, Wavell Heights. Fri 26/6 to Sun 28/6. Sec: Mrs J. Smith, P.O. Box 334 Strathpine 4500, 269 4728.

**Orchid Species Society** SPRING. Mt Coot-tha Botanic Gardens Auditorium. Sat 12/9 to Sun 13/9. Sec: Mr A. Robinson, P.O. Box 485, Toowong 4066, phone 396 3192. 3rd Mon.

**Pine Rivers OS.** SPRING. Aspley Pick'n Pay Hypermarket. Thurs 24/9 to Sat 26/9. Sec: Mr M. Rivers, P.O. Box 229, Strathpine 4500, phone 205 5505. 4th Tues.

**Redcliffe District OS.** SPRING. BBC Hardware. Thurs 10/9 to Sat 12/9. Sec: Mrs L. Grubb, P.O. Box 51 Margate 4019, phone 203 2825. 2nd Wed. 7.30pm/1st Thur 9am. CWA Hall, Georgina St, Woody Point.

**Redlands OS.** SPRING. CWA Hall, Shore St, Cleveland. Sat 12/9 to Sun 13/9. Sec: Mr J. Abeya, P.O. Box 116, Cleveland 4163, phone 206 7253. 3rd Mon. 7.30pm, CWA Hall, Shore St Cleveland.

**Southport & District OS.** SPRING. West Burleigh Shopping Village. Thurs 15/10 to Sat 17/10. Sec: Mrs D. Worley, P.O. Box 5336, Gold Coast Mail Centre 4217, phone (075) 37 2693. 1st Wed. 7.45pm. Masonic Hall Nerang St, Southport.

**Sub-Tropical Orchid Council of Queensland.** Sec: Mrs H. Page, Peachester, via Berwah 4570, phone (071) 94 9557.

**Sunshine Coast OS Inc.** SPRING. Civic Cultural Centre, Caloundra. Fri 2/10 to Sat 3/10. Sec: Mrs G. Andersen, P.O. Box 279, Caloundra 4551, phone (071) 92 2379. 3rd Fri.

**Toowoomba OS.** Sec: Mr F. Simpson, P.O. Box 885, Toowoomba 4350, phone (076) 35 1948. 4th Fri. (except Sept & Dec). Red Cross Hall, Hall Lane, Toowoomba.

**Warwick & District OS.** Sec: Mr R. Pohlam, P.O. Box 509, Warwick 4370, phone (076) 61 1971. 2nd Mon.

**West Brisbane OS.** SPRING. Mt Coot-tha Botanic Gardens Auditorium. Tues 26/9 to Wed 27/9. Sec: Mrs R. Ozanne, 105 Bowman Parade Bardon 4065, phone 38 1240. 4th Wed.

**West Moreton Orchid Group** SPRING. St Pauls War Mem. Hall, Limestone St, Ipswich. Fri 11/9 to Sun 13/9. Sec: Mrs R. Walton, PO Box 101, Ipswich 4305, phone 64 1776. 4th Fri.

**Wynnum Manly District OS.** Sec: Mrs M. Cook, P.O. Box 91, Manly 4179, phone 398 6893. Day: 3rd Mon. Night: 3rd Wed. RSL Memorial Hall, Melville Terrace Manly.

## SOUTH AUSTRALIA

**Orchid Club of SA Inc.** WINTER. St Peters Town Hall Payneham Rd, St Peters. Sat 11/7 to Sun 12/7. SPRING. Lancelot Stirling Hall, Showgrounds, Wayville. Sat 5/9 to Sat 12/9. AUTUMN (1988). Australian Mineral Foundation Glenside. 5/5/88. Sec: Glenn Heylen, 5 Richman Ave, Prospect 5082, phone (08) 344 4255. 1st Thurs.

**Gawler Districts Orchid Club.** WINTER. TAFE Hall Gawler SA. Sat 18/7 to Sun 19/7. SPRING. Elizabeth Centre, Elizabeth S.A. Mon 28/9 to Sat 3/10. Sec: Lyn Howard, 24 Ranger St, Elizabeth Park 5113, phone (08) 255 5981. 2nd Tues.

**Native Orchid Society of S.A.** SPRING. Goodwood Orphanage Goodwood Rd Goodwood. Sat 19/9 to Sun 20/9. Sec: Wayne Harris, 111 Turners Ave, Hawthorndene SA, phone (08) 278 2917. 4th Tues.

**Orchidaceous Society of S.A. Inc.** WINTER. Thebarton Town Hall, Henley Boach Rd, Thebarton. Sat 25/7 to Sun 26/7. SPRING. Tea Tree Plaza Shopping Centre. Mon 21/9 to Sat 26/9. Sec: Mrs Elva Sawyer, 60 Balfour St, Nailsworth 5083, phone (08) 344 4260. 3rd Wed.

**Northern & Eastern Districts OS.** SPRING. St Phillips Hall, Galway Ave, Broadview, S.A. Thurs 3/9 to Sat 5/9. Sec: Mrs Iris Freeman, 18 Justina Ave, Surrey Downs 5126.

**Mt Gambier & Districts OS.** SPRING. Mon 5/10 to Sat 10/10. Sec: Wayne Gill, 30 Reginald St, Mt Gambier 5290, phone (087) 25 2964.

**Murray Bridge & Districts Orchid Club.** SPRING. Fri 18/9 to Sat 19/9. Sec: John Gay, P.O. Box 652, Murray Bridge 5253, (085) 32 5607. (Agricultural Show 2/10)

**Port Augusta Orchid Club.** Sec: Mrs B. Vile, P.O. Box 1752 Port Augusta 5700, phone (086) 42 2021.

**Port Lincoln Orchid Club.** Sec: Mrs K. Castley, P.O. Box 1335, Port Lincoln 5600, phone president (086) 82 2877.

**Riverland OS.** Sec: Mrs Audrey Tschirpigg, 30 Sixth St, Loxton S.A. 5333, phone (085) 84 7177.

**South Coast Orchid Club.** Sec: Mr T. D. Howard, 21 Peregrine Cr Christies Downs 5164, phone (08) 384 3524 2nd Tues.

**Whyalla Orchid Club.** Sec: Sylvia Sault-Dennis, P.O. Box 566-Whyalla 5600.

## NORTHERN TERRITORY

**NT Nightcliff OS.** Exhibit Darwin Show last week of July. Sec: Mrs D. West, Box 41165 Casuarina 5792, phone (089) 27 5444. Meets Nightcliff primary school 2nd Mon.

**Orchid Society of the N.T. Inc.** WINTER. Darwin Show. Tues 23/7 to Sat 25/7. SPRING. Casuarina Square. No final date. AUTUMN (1988). Casuarina Square. No final date. Sec: Mr David Viney, P.O. Box 38493 Winnellie N.T. 5789 phone (089) 32 1970. 3rd Mon. at Alawa Community Hall.

## WESTERN AUSTRALIA

**Albany OS.** SPRING. Thurs 1/10 to Sat 3/10. Phone (098) 41 3383.

**Augusta District OS.** SPRING. Fri 11/9 to Sat 12/9. sec: Mrs B. Sedunary, 5 Ellis St Augusta 6290.

**Bunbury OS.** WINTER. Conference Room, Light House Inn. Thur 23/7 to Sat 25/7. SPRING. Same venue. Sat 26/9 to Sun 27/9. Phone (097) 21 6496.

**Melville District OS.** WINTER. Roy Edgin Hall, Cnr Stock Rd & Canning Rd H'way Palyua. Sat 4/7 to Sun 5/7. SPRING. Same venue. Sat 5/9 to Sun 6/9. Phone 459 3335.

**Northern Districts OS.** WINTER. Mirrabooka Shopping Centre. Thurs 9/7 to Sat 11/7. SPRING. Yarley Shopping Centre. Thurs 10/9 to Sat 12/9. Sec: phone 299 6714.

**Wanneroo District OS.** SPRING. Thurs 24/9 to Sat 26/9. Sec: phone 401 8624.

**Western Australia OS.** WINTER. Centrepont Shopping Centre. Wed 22/7 to Sat 25/7. SPRING. Same venue. Wed 16/9 to Sat 19/9. Phone: 364 7968.

**Yandurah Orchid Club.** SPRING. Thurs 1/10 to Sat 3/10. Sec: Mr W. Moyle, 6 Movash Court, Halls Head Yandurah.

## TASMANIA

**Tasmanian OS.** SPRING. Town Hall, Macquarie St, Hobart. Fri 2/10 to Sun 4/10. AUTUMN. Westpac Bank, 38 Elizabeth St, Hobart. 24/5/88 to 27/5/88. Sec: J.F. Smith, 11 Warren Court, Howrah, phone (002) 44 1555. 4th Mon.

**Devonport OS.** SPRING. Spreyton Memorial Hall. Fri 2/10 to Sun 4/10. Sec: Trevor Lehman, 5 Stony Rise, Main Rd, Quoiba, phone (004) 24 1055. 3rd Wed.

**The Launceston OS Inc.** SPRING. The Launceston Windmill Hill Hall, High St. Fri 2/10 to Sun 4/10. Sec: Mrs B. Calverley, 24 Summerdale Grove, Launceston 7250. Tas, phone (003) 44 5608. 3rd Tues.

**10th Tas Orchid Conference.** Host is Orchid Society of Western Tas. Held with Spring show. Burnie Civic Centre Fri. 10/10 to Sun 17/10. Top speakers. Registration \$25.00 single \$45.00 double. Sec: Mrs V. Stammers, P.O. Box 332 Burnie 7320.

**Orchid Society of North Western Tasmania.** SPRING. Civic Centre, Burnie. Fri 9/10 to Sun 11/10. Sec: Mrs Veena Stammers, P.O. Box 332, Burnie, Tasmania 7320, phone (004) 31 2230. 1st Wed.



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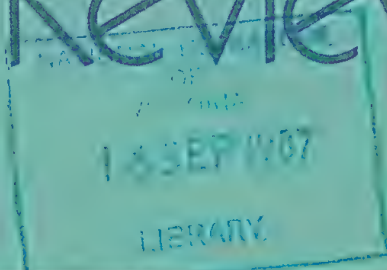
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# Australian Orchid Review



SPRING 1987



# Botany Bay Orchids



**"OUR ORCHID OF THE YEAR 1987"**

**Phal. Ryne Zimmerman 'Amado Vasquez' HCC/AOS/AOC**  
**(Zuma Urchin 'Zuma Canyon' x Zuma Firefly 'Bonnie Vasquez HCC/AOS)**  
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## WHERE PARENTAGE COUNTS



(WINTER WONDER X POETIC FAIR) 'LOREN'

The first of the Winter Wonder 'Josephine' x Poetic Fair 'Dolly' crosses started flowering this season. The first two opened in May and the others through June.

The cross is throwing fine whites and soft greens of which 'Loren' above is an example.

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The Official Publication of the Orchid Society of New South Wales, Queensland Orchid Society, Victorian Orchid Club, Orchid Club of South Australia, Orchid Society of Western Australia, Tasmanian Orchid Society.

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Published and printed by GRAPHIC WORLD PTY LTD

14 McGill Street, Lewisham, NSW 2049 Australia

Phone: (02) 560 6166 Telex: AA127936 Fax: (02) 560 6677.



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# Australian Orchid Review

Volume 52 — No. 3

SPRING 1987

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- Pleione* Versailles 'Buckleberry' is a clone from the first registered pleione cross and the first pleione hybrid to be awarded. It is available in Australia. In very recent years pleione hybrids made in England have aroused wide interest in the genus. Hopefully some of these fine clones will shortly be readily available here. Crosses from clones of the fine *P. Shantung* line are particularly interesting.
- 

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Cover photograph from *Of Pleione hybrids* by Ronald Kerr

*Pleione* Versailles 'Buckleberry' AM/RHS. Photograph by N. Collins



# Breeding Red Colouring into Cattleyas

FRANK FORDYCE



*Slc.* Ginny Champion 'Mini Bouquet'. *C.* Baby Kay x *Sl.* Psyche is a true red and floriferous.  
Photo: Fordyce Orchids

Orchidists have too often compromised in their search for the true red cattleya type. They have accepted as "red", the larger, more shapely cerise-red blooms resulting from the hybridisation of *S. coccinea* with deeply-coloured purples that contain strong *C. dowiana* influences. Consequently they often fail to fully recognise the importance of the relatively-slow advances of the true red alliance. An example of this can be found in *Slc.* Anzac 'Orchidhurst', FCC/RHS, the tetraploid red-purple breeder. It is a *sophronitis*-derived hybrid with an intensified red-purple colouring brought about by the use of *C. dowiana* on both sides of the Anzac parentage.

Obviously hybridisers have endeavoured to capture the elusive crimson, or tomato-red colour of *S. coccinea* in larger, better formed, more flamboyant, labiate-type cattleyas. To date, most attempts have failed to produce any notable quantities of true reds, but in the attempt to increase the

size of bloom, many hybridisers turned to the larger red-purple shades and diluted the red genes of the smaller-flowered species with dominant purple gene packages. This resulted in a wide range of art shades encompassing reddish-toned purples, oranges, yellows and a suffusion of art shades.

Hybridisers have found that *S. coccinea* has contributed more redness to our modern cattleyas hybrids than any other species. The red genes in this species are usually dominant and when present in a homozygous condition, produce a beautiful red colour. One of the most common errors of which most hybridisers are guilty is the attempt to "short-cut" their way into producing the large reds by introducing polyploidy into a genetic situation that is already quite complex. This results in partial or total sterility in many of these "red" hybrids.

A limiting factor between *Sophronitis* and the labiate *Cattleya* hybridising may

*Slc.* Dixie Jewels  
'Sparkle Fire'

This cross of *C. aelandiae* x *Slc.* Madge Fordyce is a notable achievement in breeding for red cattleyas  
Photo: Fordyce Orchids



*Slc.* (unnamed) 'Torch Song'  
From an unregistered cross between *Lc.* Orange Gem 'Zip' and *Sc.* Cleopatra.  
Photo: Fordyce Orchids

well be the physical difficulty of attempted hybridisations between the long-style labiate cattleyas and the shorter-style sophronitis group. The pollen tubes of the sophronitis species may be frequently unable to traverse a long style. When the long-style brassolaeliocattleya is pollinated by the short-style *S. coccinea*, it has been noted that only the ovules in the upper one-third of the ovary may mature as reds. The brassolaeliocattleya style plus one-third of the depth of its ovary is equal to the length of the *S. coccinea* style and ovary. It appears that the most successful combination occurs when the long-style laeliocattleya plant is used as the staminate parent. Although this mating problem of the pollen tube and style length may not always be critical, it is entirely possible that it is a factor in the failure of many hybrid red combinations.

*S. coccinea* genes for true reds dominate

and when used with like types produce reds free from purple overtones. When used with bright purples (especially those with *Lc.* Lustre parentage) it tends to work in harmony with *C. dowiana*, enhancing purple with red overtones.

Much sterility is involved when *S. coccinea* is used with other species and hybrids.

Remembering that the *S. coccinea* labellum form is dominant, we must endeavour to breed towards larger labellums that close over the top of the column.

To gain flower size and yet retain the true red colouration, we must have a planned, long-term breeding programme, possibly involving converted tetraploid reds with *C. dowiana* or the rupicolous laelia-based hybrids. *C. dowiana* apparently acts as a recessive when crossed with purples during the first generation of hybrids but strongly



exerts its influence in subsequent hybrids when bred with other *C. dowiana*-bred purples. In certain hybrid combinations it tends to intensify the purple colouring giving rise to extremely dark shades of purple and glowing purple-reds.

Tetraploid reds are almost impossible to find. Converting to tetraploid through the use of colchicine may be a valuable step in a breeding programme.

Although potinaras produce much larger blooms they seldom have true red colouring because of the *B. digbyana* parent.

If we are to seek floriferous hybrids we must include either *C. aurantiaca* or the rupicolous laelias in our hybrids as *C. coccinea* tends to produce only two to three flowers per stem.

Selfing and sibling are valuable methods

in the process of selecting superior clones for future hybridising.

Yellow and red in the *Laelia* species is dominant, as is size and stem length.

*C. aurantiaca* dominates colour and size but not always stem length.

Several combinations of red parentage allow progeny to grow rapidly, producing multi-lead plants. They retain a compact short-rhizome plant that blooms several times per year, a definite advantage to the hobbyist or to the commercial grower marketing these brilliantly-coloured pot plants to the public. It is my prediction that due to tissue culture many seldom-seen, brightly-coloured cattleya flowers may possibly become popular as cut flowers. Through this method they may now be produced in a sufficient quantity to meet the cut-flower demands •

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# Spring in the Gardens

The Royal Botanic Gardens, Sydney, will join forces with the Orchid Society of NSW for the annual floral festival, Spring in the Gardens, in September.

The festival moves to a new venue in the Gardens this year, the lawn known as the Parade Ground near Government House, and opens on Sunday, September 27.

The Orchid Society held its popular week-long show at the Sydney Town Hall last year. This year it will fill a large marquee with its marvellous displays, to be open to the public until Sunday, October 4.

Another large marquee will be erected nearby to house displays mounted by leading plant societies. Among other firsts for this year's Spring in the Gardens will be the contribution of several of Sydney's major professional nurseries. Their displays include outdoor landscaped settings, exhibits of potted flowering plants, fish ponds and garden furniture. Apprentices at the Royal Botanic Garden will prepare a special display for the festival.

These components of Spring in the Gardens will also open on September 27. They close on September 30. Entry is free but the Orchid Society will charge an entry fee to its marquee.

A section for floral art is included as part of the festival this year for the first time. Prizes in the various sections will be awarded to societies and professional groups.

Highlights of the festival which have been popular attractions in the past will include Meet the Experts panel in which visitors will have the chance to talk to well known gardening personalities and have their garden queries answered. This year the Gardens will have a botanist on the panel each day to extend the service.

The production glasshouses will be open for inspection by the public, and special displays will feature the Gardens' two new developments at Mt Tomah and Mt Annan.

Mt Tomah Botanic Garden, a site in the Blue Mountains about the same size as the Sydney Gardens, will concentrate on cool climate plants and specialise in the flora of the southern hemisphere. To be officially opened in November, it is the first major bicentennial project to be launched in NSW.

To open in spring, 1988, Mt Annan Botanic Garden, 500 hectares between Campbelltown and Camden, will become a collection of native Australian flora. It is one of the largest projects of its kind in the world.

Spring in the Gardens is a delightful way to get to know more about plants in the beautiful setting of Sydney's Royal Botanic Gardens. In addition to the displays there will be music performances each day, a refreshment tent organised by the hard working Friends of the Royal Botanic Gardens and plant stalls.

The Gardens Shop, Sydney's leading bookshop for horticultural and botanical books as well as superb gifts and souvenirs, will also be open and the current exhibition, *Weird and Wonderful Plants*, will open to the public, free of charge, in the Visitor Centre •

## YOURS HARD TO FLOWER?

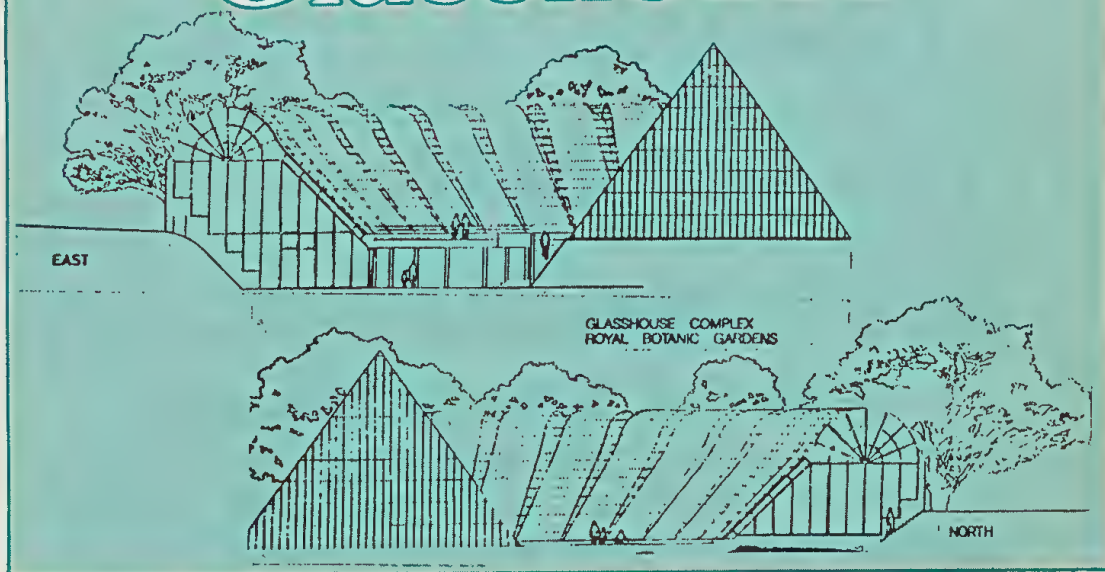
*Bifrenaria harrisoniae* can sometimes be a bit difficult to flower. It likes intermediate to warm conditions. While actively growing it will tolerate bright light and will take ample water and humidity. When pseudobulbs are fully developed give a rest period of several weeks during which they should be kept slightly cooler and somewhat shaded.

**MORRIE CLENCH**  
In Caboolture OS Bulletin

## VALE

Sympathy is expressed to Mr Andy Easton and family on the tragic loss of his wife and their mother after a long illness.

# Go-ahead for new Glasshouse



The State Government has given the green light to a new building — the “new glasshouse” — to house tropical plants in the Royal Botanic Gardens.

The Minister for Planning and Environment and Minister for Heritage, Mr Bob Carr, said today work on the \$3.5 million structure would begin this financial year.

Mr Carr said the project had been advanced through a \$500,000 donation from a retired industrialist, Mr Herman Slade.

He said the new glasshouse will fulfill the Gardens’ aim of accommodating and displaying the widest range of Australian rainforest species.

“It will therefore build on the State Government’s historic 1982 decision which saved rainforests from logging.

“Last year the rainforests were placed on the World Heritage List.

“Rainforests are the richest concentration of plant species to be found in Australia and the new glasshouse will enable more people to learn about their wonders.”

Mr Carr said it will form a quarter-circle around the existing pyramid glasshouse

and will be spacious enough to house trees among its array of plants.

But it would not encroach on any space currently used by the public. It will be tucked against the Cahill Expressway and will sit below the existing treeline, he said.

The two buildings will be linked by an underground foyer which will double as a display area.

“Since their opening in Governor Macquarie’s day, the Royal Botanic Gardens has developed a well deserved reputation as one of the world’s finest collectors and curators of the plant world,” he said.


“By creating environments which enable plants to be cultivated outside their natural habitat, they have a significant role to play in protecting threatened plant species.

“Thanks to the generous support of Mr Slade — which makes this exciting project an unusual joint venture — the people of NSW will gain a deeper appreciation of the State’s glorious natural heritage.”

The “new glasshouse”, a major Bicentennial project of the Royal Botanic Gardens, is expected to open in June, 1988 •

**Inquiries: Felicity Baverstock 231 8129.**





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- 1076 Odcn. Big Max x Onc. Lava Flow Yellow/Chocolate (10 plants)
- 1144 Milt Gascogne 'Vienne' AM/AOS Mericlone. Some waterfall pattern (5 plants)
- 1145 Milt. (Beethoven x Hamburg) Mericlone White/Red (5 plants)
- 1171 Onc. crispum var Grandiflorum x Palolo Gold 'Kay' Brown petals/Yellow Skirt (10 plants)
- 1208 Odcn. Tiger Butter 'Miami' Mericlone Gold/Brown Markings (5 plants)
- 1236 (Milt. Bluntii x Onc. varicosum) 'Burnt Gold' x Onc. Yurla Large Burnt Gold Skirt. (10 plants)
- 1237 (Milt. Bluntii x Onc. varicosum) 'Burnt Gold' x Onc. Sultamyre 'Therese' Gold Skirt (10 plants)
- 1245 Wils. Cardiff x Odcn. Tiger Butter Mixed Colours (5 plants)
- 1351 Wils. Solana Surprise (a cross of tigrinum x Minel) x Odcn. Waycon Mixed Colours (5 plants)
- 1457 Milt. Anjon 'St Patricks' Mericlone. Red/Maroon with pink and white mask (5 plants)
- 1458 Milt. Bert Feild 'Ono' Mericlone. Maroon/Orange Mask (5 plants)
- 1459 Milt. Pam Pam 'Boissy' AM/AOS Mericlone. Dark Red (5 plants)
- 1460 Onc. varicosum 'Lemfords' AM/AOS x self Large Yellow Skirt (5 plants)
- 1462 Wils. Celle 'Venus' AM/AOS x Onc. Leucochilum Mixed Colours (5 plants)

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- 1302 Paph. Vintner's Treasure 'Nightwinder' HCC/AOS x sukhakulii 'Corjo'
- 1303 Paph. Cypheri 'First Born' x Maudiae 'Black Knight' AM/AOS
- 1304 Paph. Osiris 'Pinkie' HCC/AOS x Maudiae 'Ebony Queen' FCC/AOS
- 1305 Paph. Emerald (Maudiae 'Ebony Queen' FCC/AOS x curtisii 'Black Monach' AM/AOS
- 1306 Paph. Faire-Maud (Maudiae 'Los Osos' AM/AOS x P. fairieanum 'Red' HCC/AOS)
- 1473 Paph. Emerald 'Jamboree Wine' HCC/AOS x Maudiae 'Ebony Queen' FCC/AOS
- 1474 Paph. Gloriosum 'Bigness Sakes' x Maudiae 'Black Rock' AM/AOS
- 1475 Paph. Holdenii 'Pal' x Vintner's Treasure 'Black Hawk' AM/AOS
- 1476 Paph. Watercolour Artist 'Olive Oyl' Am/AOS x Maudiae 'Ebony Queen' FCC/AOS
- 1477 Paph. Nettie McNay = (Maudiae 'Black Rock' Am/AOS x mastersianum 'Madrigal' MCC/AOS)
- 1478 Paph. Vintner's Treasure 'Black Earle' B/CSA x Via Prokuli 'Jamboree' AM/AOS
- 1479 Paph. (Fitchianum x Kowloon) x Maudiae 'Ebony Queen' FCC/AOS
- 1481 Paph. Makuli 'Amazon' B/CSA x Vintner's Treasure 'Bertsch's Ruby'
- 1482 Paph. Supersuk 'Eureka' AM/AOS x Doctor Knock 'Goliath' HCC/AOS

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# Danger in your orchid house

*Imblattella orchidae* Asahina, an introduced cockroach associated with orchids in Australia (Blattodea: Blattellidae)

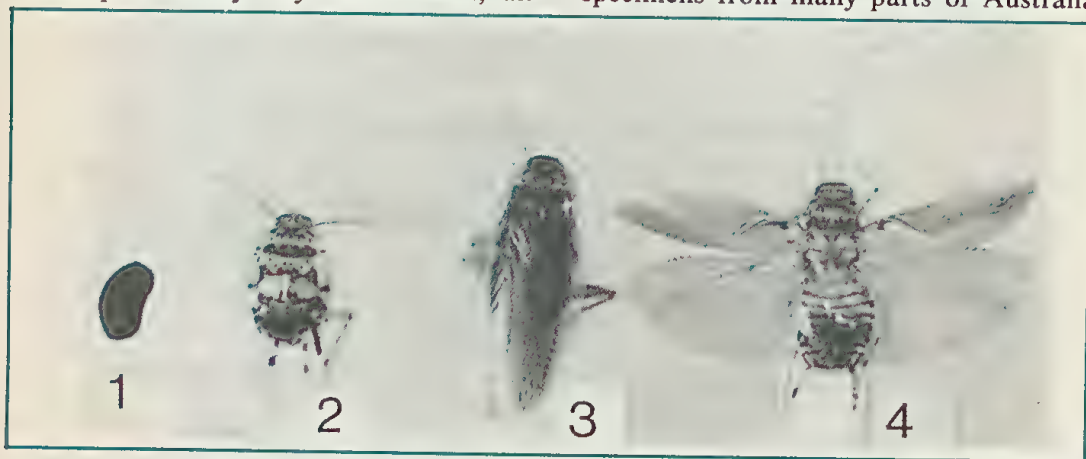
**D.C.F. Rentz**

CSIRO, Division of Entomology, GPO Box 1700, Canberra ACT, 2601.

A population of a small cockroach, *Imblattella orchidae* Asahina, the orchid cockroach, was discovered in 1985 living under greenhouse conditions in the National Botanical Gardens (NBG), Canberra. The orchid cockroach has been recorded commonly in greenhouses in Tokyo area (Asahina 1973). The species was first identified as *I. panamae* (Hebard) Tokyo area (Asahina 1985). The species was introduced into Japan in orchids imported from Central America. Subsequent study by Dr Asahina, an

pinebark and other planting media suitable for epiphytic orchids grown in pots. The oothecae (Fig. 1) are secured tightly amongst the tangle of roots where they could easily adhere during repotting of the plant.

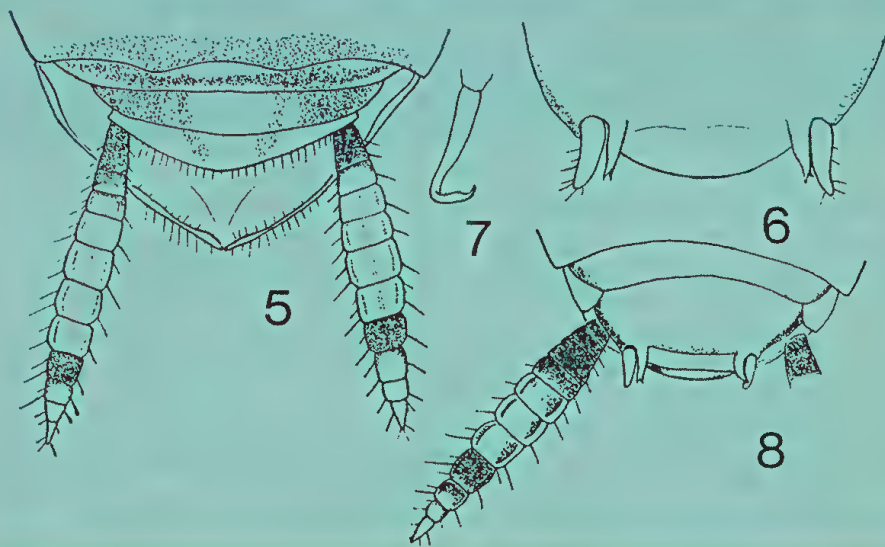
How the cockroach entered Australia is uncertain. All foreign orchids imported into Australia undergo quarantine and it would seem that any eggs or live roaches should be killed during the process. The NBG does, however, receive live orchid specimens from many parts of Australia



orchid fancier as well as an outstanding entomologist, revealed that the species was not *I. panamae* but an undescribed one which he named *I. orchidae*. It is likely *I. orchidae* originally entered Japan from Central America. (The Australian specimens were determined by Dr L.M. Roth, Harvard University, who is making a taxonomic revision of the Australian Blattellidae.) This cockroach lives among the roots of epiphytic orchids often grown on bark slabs or pieces of cork. It may feed on the growing root tips and damage flower buds and developing shoots of the vegetative parts of the plants but Dr Asahina has not been able to detect any damage caused to the roaches. The cockroaches also live amongst the

and these are not necessarily treated for pests. It is quite likely that *I. orchidae* was introduced into the NBG, in orchids sent from other collections in Australia. There is some indication that the cockroach is a bit more widespread than indicated above. The author is a collector of orchids and maintains a small greenhouse in Canberra some 15 km from the NBG with many epiphytic orchids. He has never exchanged any plants with the NBG but does so regularly with members of the Canberra Orchid Society and orchid growers for several nurseries in eastern Australia. In January and February 1987 he collected adults of *I. orchidae* at his porchlight and his glasshouse.

It seems prudent to present a few



descriptive notes on *I. orchidae* and ask orchidologists to check their collections to determine the extent of the species' presence in Australia. Like many blattellids, *I. orchidae* is nocturnal. By day it hides in the roots or planting medium and emerges at night to feed. Orchidologists would likely encounter the cockroaches during repotting or by observing their plants at night. This species is very fast-moving; it moves more quickly than any other native cockroach with which the author is familiar. Unfortunately, *I. orchidae* has the general appearance of any of a number of native Australian blattellid species. This fact may have led to its being overlooked until now. The orchid cockroach is medium-sized, slightly smaller than the German cockroach, and is about 10.5mm long in both sexes. Adults and nymphs have irregular pronotal markings (Figs. 2-5) which are also present on many native cockroaches. Nymphs are marked as in Fig. 2. The male genitalia are asymmetrical. Figs. 6 and 8 show ventral views of the tip of the male abdomen. One specimen was preserved in alcohol and one dried. The spiniform appendage of the left of the figure at the base of the cercus is divided at the tip, that on the right is not. The phallosome (Fig. 7) is characteristic of the species and normally protrudes slightly from the male's abdomen. The female's

abdomen (Fig. 5) is not especially distinctive but the banded cerci should aid in identification. The stout, curved ootheca may also be used in identification. Whether this tropical species could survive outdoors during a Canberra winter is unknown.

I would be interested in seeing any cockroach specimens suspected of being *I. orchidae*. They can be conveniently preserved in 70% alcohol or methylated spirits and sent to me at the above address •

#### Reference

- Asahina, S. 1973. Taxonomic notes on Japanese Blattaria. V. On three recently introduced species. Jap. J. Sanitary Ent., 24: 123-128.  
Asahina, S. 1985. Taxonomic notes on Japanese Blattaria, XV. A revision of three blattellid species. Cho Cho Kitalcyushu, 8(5): 1-10.

#### Legends to Figures

Figs. 1-4. *Imblattella orchidae* Asahina. Fig. 1. Ootheca. Fig. 2. Late instar nymph. Fig. 3. Adult male. Fig. 4. Adult female. All figures from Asahina (1973).

Figs. 5-8. Taxonomic structures of *Imblattella orchidae* Asahina).

Fig. 5. Ventral view abdomen adult female. Fig. 6. Ventral view abdomen adult male, alcoholic specimen. Fig. 7. Phallosome, adult male. Fig. 8. Ventral view abdomen adult male, dried specimen. All figures from Asahina (1973).



# Royale Orchids

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# New Society conducts successful workshop

The Upper Hunter Orchid Society conducted an Orchid Workshop for the benefit of its members, particularly the inexperienced growers. The workshop was the first major activity undertaken by this society that was formed only last December.

Sunday the 12th April 1987 dawned clear and mild, shorts, tee shirts and sunglasses were the order of the day. A very pleasant grassed area under several lovely, large Jacarandas near the hall was chosen. The demonstration table, some chairs and a display of orchids were soon in place for a start. The 25 members were joined by a small group of visitors from the Muswellbrook Horticultural Society.

Our Lecturer, Mr Alan Merriman from Cecil Park Orchids, covered every aspect of growing and flowering cymbidiums to perfection. Alan indicated that there were many rules related to growing orchids, rules that provide the grower with a guide to the conditions that he must try to duplicate, if he is to grow orchids successfully. Alan emphasised that these rules can be varied to suit the needs and conditions of the individual, but they cannot be broken.

Topics covered included origins of cymbidium species, climatic requirements, housing, composts, watering, fertilisers, control of pests and diseases, dividing and repotting. Alan then gave a dividing and repotting demonstration.

Indeed, a considerable amount to cover in just over four hours . . . and yes, we did allow Alan time for morning tea and lunch, although sprinkled with a liberal quantity of questions and plenty of discussion.

Those present, from the beginners to very experienced growers, thoroughly enjoyed Alan's most informative lecture and would have stayed much longer except that Alan and wife Miriam had to drive home to Sydney.

The treasurer (a shiftworker) intended staying for the first hour, but gave up a days sleep so that he could remain the entire day. Another member missed out on his tennis afternoon because he stayed all day. The best lecture on cymbidiums ever heard was the comment from another member. Another fellow remarked several days later that he had gone home and rebuilt his orchid house. Comments from a few members on the quality of the lecture given by Alan. I am sure that the benefits of this workshop will be evident in the quality of plants benched in the near future.

## Upper Hunter Orchid Society

The Upper Hunter Orchid Society was formed late in 1986 so that orchid growers in the Cessnock, Singleton, Muswellbrook, Scone and surrounding areas could enjoy the benefits of an orchid society.

The first Annual General Meeting was held in December and the following office-bearers were elected — President — Col Andrews, Vice President — Ross Smith, Secretary — Lyn MacBain, Treasurer — Bob McBain, Committee — Les Footé, Ernest Huber, Terry Kelly, Julie Adams, Ray Considine, Librarian — Shaun Langsford.

The society meets on the first Wednesday of each month at St Augustine's Hall, Bathurst Street, Singleton.

This year the members have enjoyed a number of guest speakers who have travelled from as far away as Sydney and Coffs Harbour. Mr Len Hockey from Wyong Orchid Nursery spoke on growing cymbidiums. Mr Sandy Anderson from Banana Coast Orchids spoke on softcane dendrobiums, and his son, Neville spoke on paphiopedilums. Mr Ron Bruderlin and



Ross Smith showed slides and discussed award judging. Mr Ted Gogley from Berowra spoke on growing and showing cymbidiums.

Membership of the society has now grown to 45 keen orchid growers, the majority being beginners or novices. The first major undertaking was to conduct a workshop on the 12th April, 1987 to assist our members, especially the inexperienced growers. The president was able to enlist the services of Mr Alan Merriman from Cecil Park Orchids to provide the expertise for the day. A most informative and enjoyable day was held by the members who attended.

On the 13th June, 28 society members travelled to Sydney to visit Wondabah Orchids and Cecil Park Orchids. This was the first occasion some of our members had seen an orchid nursery.

The society organised an orchid display for the 19th and 20th June at Lancaster's Showroom in Singleton. This was the first opportunity for members to display their plants and to gain valuable experience for future shows and displays.

The spring show will be held in Town Square Shopping Centre, Singleton on the 4th and 5th of September.

The members of this very young, but enthusiastic society are looking forward to our first year and the many challenges that await us. On behalf of the members, I would like to extend an invitation to any visitors to the area to attend a meeting ●

*Col Andrews — President*

## MOUNTAIN MOSS

One of our most successful Epiphytes is the so called Mountain Moss — a total misnomer, since it does not always grow in the mountains and nor is it a moss.

It festoons trees and shrubs in the semi-tropical areas. It has every adaption just described for a successful Epiphyte. It does not have water storage tissue and it does not collect humus, although at most times leaves and rubbish is found tangled in it. It has no roots of any kind. It looks more like

curtains of green, hung out to dry on branches of trees. It gets all its water from rain and dew. Its stems are covered with shields, which cover hairs that are tightly pressed against them and these take up water by capillarity.

The water is then absorbed by the plant through cells shielded by the hairs. This results in a perfect valve mechanism. Liquid water can get in, but hardly any water vapour is lost. There is still another advantage to this mechanism.

When rain begins, the first water that washes down into the moss from the branches above is rich in minerals derived from cells of the host plant which have died. Thus the moss is supplied with nutrients in concentrated form. Furthermore by the time rain water has washed away the minerals and runs pure, the plant is already saturated and does not take up any more.

The moss does not as is often believed, kill the branches on which it grows, on the contrary it proliferates only when the host tree already has an abundance of dead cells. The roots of many epiphytic orchids have a peculiarity all their own.

Their outer cells are empty and filled with air. Their roots look thick and greyish white when dry and any rain water is absorbed as quickly and as thoroughly as if they were blotting paper.

As soon as the roots get water they turn green. Like moss these orchids also get a supply of nutrients from the rain. Because of the similarity between moss growth and orchid growth perhaps this is why when included in one pot or adjacent to one another one complements the other.

Perhaps the orchid steals some of the moisture from the moss since it is only held between and under the shields along the stem of the moss. I have found the moss will thrive quite successfully on chemical fertilizer which is a big advantage over sphagnum moss which quickly dies and goes to slush when it comes in contact with chemicals. It has been hard to ascertain what amounts, if any, actinomycetes the moss may contain as no evidence of any fungi has been found on the moss ●

**JACK MIERS**  
In Cumberland OS News

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# BOOK REVIEW

## The genus *Paphiopedilum*

Published by Hamlyn Publishing,  
Bridge House, 69 London Road,  
Twickenham, Middlesex, TW1 3SB,  
England.

English price £35.00

Since Dr Cribb became Curator of the Orchid Herbarium at Kew a wide range of generic revisions have been published as Kew monograms.

This current monogram is a thick hard cover book of 224 pages, with 56 colour plates from water colour paintings. Also 15 location maps and 71 botanical drawings.

Sixty species and their varieties are described in detail and a botanical key to identification provided. This is only part of the contents. The opening chapter covers morphology, both vegetative and floral. The understanding of plant structure provided by this chapter, and the following one on anatomy, is an essential part of species identification. Further chapters cover ecology, distribution, and evolution.

Hybridisers will find the chapters on hybridisation and pollination essential reading. A chapter on cultivation has been written by Joyce Stewart who was for many years editor of the *South African Orchid Journal* and is now Sainsbury Orchid Fellow at Kew. Mrs Stewart explains propagation and specific cultural requirements, and gives a list of available books.

Many new species have been found in recent years and this has led to considerable rethinking on classification. Dr Cribb has the vast resources of the Kew library and Herbarium specimens at his disposal and he has used them very well indeed. He has also made extensive field trips to habitat areas so that his work is based on living specimens as well as herbarium types. Thus this review of

*paphiopedilum* classification will inevitably be taken as a basis for the foreseeable future and an essential reference for everyone concerned with the genus.

The grower who wishes to dispute names will be enlightened by the chapter on *The species concept in Paphiopedilum*. Dr Cribb points out:

"The horticulturist requires names for his plants and to be able to give different names to plants that look different. The botanist is more concerned that his classification reflects the relationships of species and their variability. In other words, the horticulturist is concerned with differences while the botanist is concerned with similarities."

Following an excellent key to identification each species is described in detail. The habitat particulars are very precise and should prove of great value to the *paphiopedilum* species grower.

Most colour illustrations show the flowers in life size or only slightly smaller. Many are from the pages of *Curtis's Botanical Magazine* or its successor *The Kew Bulletin*, and are the work of some of the most famous botanical artists over the past 150 years. About half are the work of Pandora Sellars, many specially for this book.

A bibliography covers nearly four pages. The index is very detailed, listing all synonyms. A final page lists the names of people who contributed in various ways to the work.

This will be the standard work on the genus *Paphiopedilum* for many years to come.

A.O.R. has contacted Octopus Books Pty. Ltd. of which Hamlyn is a division, and learnt that no stocks are at present available in Australia. Intending purchasers are advised to contact the Kew Gardens Bookshop, Richmond, Surrey, TW9 3AB, England, for the price including air or surface postage •

# BOOK REVIEW

## The Rebecca Northern books

Published by Prentice Hall Press,  
New York.

Distributed in Australia by Simon  
and Shuster Australia and available  
at major bookshops.

R.R.P. hard cover \$85.

New printings of Rebecca Tyson  
Northern's famous books are now  
available in Australia.

The third edition of *Home Orchid Growing* was first published in 1970. The first two editions had proved very popular leading to this third greatly expanded edition. Since then it has, due to its excellence, sold steadily over the years and could possibly claim to be the best selling major orchid book of all. If you only want one orchid book to cover your development of a mixed collection this book is the one to buy.

This 1986 reprint may date a little but the cultural data described is so sound this is hardly noticable. It is written for hobbyists by a practical grower fired by enthusiasm and the excitement of discoveries in culture, hybridising, and the sheer diversity of orchid flowers.

One reason for the book's success has been its easily understood approach. Mrs Northern keeps to plain language. Too much botany is out. Her concept of "tribe" might not please the botanist, "Cattleya Tribe" rather than *Cattleya Alliance*, but no matter her distinctions are always clear.

*Home Orchid Growing* is a balanced book covering all the important aspects of hobby growing, the main orchid genera, two chapters on the rare and unusual, nutrition, problems and solutions, and housing. There is a chapter on the care and use of cut flowers.

It is written for the northern hemisphere so a reference to May etc. will mean November in this country.

The book is profusely illustrated in colour and black and white •

## Trees and Shrubs for Eastern Australia

Principal author J. D. Dark

Published by NSW University Press.

Available from Forestry offices and Government bookshops, or the NSW University Press, P.O. Box 1, Kensington, 2033,

R.R.P. paperback \$9.95,  
hardback \$14.95

How often have you seen a really wonderful tree on a bush trip, or even in your local park, and wondered about its name? In most cases this 181 page book will give you the answer.

The emphasis is on trees and shrubs suitable for east coast cultivation and this includes some spectacular exotics. Although a relatively easy guide to identification its main purpose is to suggest the best species for special purposes, such as ground cover plants, farm woodlots, stock fodder trees, trees and plants for parks and trees, and landscape gardening.

Where appropriate the honey and oil yield of a tree is given, also data on its suitability for timber or firewood.

It starts with an alphabetical list of common names, with botanical names opposite. Then follows a tabular list of uses covering such items as drought resistance, height, ornamental, suitability for koalas, etc., etc. Very useful. There are over 100 illustrations in colour •



## BOOK REVIEW

### Miniature Orchids

Published by Van Nostrand Reinhold Company.

Distributed in Australia by Simon and Shuster Australia, 7 Grosvenor Place, Brookvale, NSW 2100.

A.R.P. soft cover \$39.95.

Mrs Northern's *Miniature Orchids* was first published in 1980 at the height of a rising interest in species growing in this country. It too has been a best seller, but recently has not been readily available. Happily this new printing overcomes the problem.

The miniatures are ideal for a small glasshouse collection, and with judicious

selection a collection can ensure flowers all through the year. Should you not desire to use heat then the environment details in the book will help you select the right species. Early on there are facts on wild environments.

The chapter on culture is aptly illustrated with black and white photos. Plants in pots, on fern and cork slabs, in baskets, etc, are shown and explained. Further sections deal with fertilizing, watering and pest control. Window growing and terrarium growing are mentioned. The first section is short and much information is conveyed in well written, easily understood, fashion.

The major part of the book is an *Encyclopedia of representative species*, from the genus *Acostaea* to the genus *Zygostates*. Species are in alphabetical order within each genus.

Where necessary species having special needs have brief cultural notes, e.g. *Sophranitella violacea* "Does best on a mount with once a day misting, in a bright, humid atmosphere". What more could one want? ●

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after 5.30 pm South Australian time.

## Eleventh Australian Orchid Conference: 1988

### Australian Native Orchids to feature prominently

Australian Native Orchids will be a feature of the Eleventh Australian Orchid Conference, to be held in Sydney from September 18th to 25th, 1988.

The island continent of Australia boasts a wide variety of orchids, both epiphytic and terrestrial. Hybridists have been working with these over several decades with increasingly spectacular results. Every year we see new examples of what can be achieved by selective hybridising of these unique and beautiful orchids.

Three prominent experts will review Australian Native Orchids at the conference lecture session. Mark Clements, specialising in native orchids at the Australian National Botanical Gardens, will cover Australian Native Orchids over 200 years; Les Nesbitt, an acknowledged expert in the field, will give us the benefit of his knowledge of Australian Terrestrial Orchids and David Banks, a hybridist of note, will speak on Recent Developments in Hybridisation of Australian Native Orchids.

The conference is ideally timed to feature Australian Native Orchids and their hybrids in great profusion and variety, as most are spring flowering. We look forward to a great display of the various species and their hybrids at the show.

One of the tours, to the magnificent Barrington Tops National Flora and Fauna Sanctuary — about 160 kilometres from Sydney — offers a unique opportunity to see many native orchids in their natural habitat. The tour is, unfortunately, very limited in numbers due to the capacity of the guest house. Early booking for this is essential.

Sydney and the New South Wales coastal districts are blessed with an ideal orchid growing climate. Local growers take full advantage of this to grow a very wide range of exotic species and hybrids. As a group, New South Wales growers

grow a great variety of orchids, in greater numbers, than in any other area of Australia. This will be evident at the conference show which will feature a veritable host of orchids in great variety.

In 1988 Australia will celebrate its 200th birthday, and it plans to celebrate in style. Nowhere will the celebrations be more enthusiastic than in Sydney, where it all began when the first fleet, laden with convicts, military and supplies, arrived in a virgin land.

A lot has happened in 200 years; Sydney has grown from a rude penal settlement to one of the world's greatest cities, with a population in excess of 3.7 million friendly people. In spite of its size, Sydney still retains many reminders of its early history. Fine colonial buildings still sprawl alongside modern office towers; the infamous "Rocks" area, once the haunt of seafarers but now restored and respectable, can be seen just across the quay from the world famous Sydney Opera House with its soaring sails.

A lot will happen in 1988. Sydney is scrubbing-up and putting on its party clothes. The whole community, from the Governor to the local tadpole society will be celebrating.

The conference show will be the orchid community's contribution to the bicentennial celebrations and enthusiasm is already high. The theme of the show will be Australia's Bicentenary. Historically minded orchid growers are already delving into local history to come up with some facet which can form the basis of a theme for their society's display. These themes can be relied upon to add interest to the many competing displays from affiliated societies.

A number of interesting tours have been arranged to make the Eleventh Australian Orchid Conference memorable. The local tours show off Sydney and its magnificent setting on the shores of Port Jackson;



Sydney and its historical past; a reconstructed Sydney as it was a hundred odd years ago — complete with convicts, trials, whippings and old crafts; the rugged grandeur of the nearby Blue Mountains; native fauna and flora; the nation's capital, Canberra, a magnificent garden city with fine public buildings and national institutions; even a touch of old Spain, with incredible dancing stallions housed and performing in opulent splendour.

The "flagship" tours precede and follow the conference. The pre-conference *Tropical Wonderland* tour covers northern New South Wales and Queensland's magnificent Great Barrier Reef area. A complete contrast is the post-conference *Territorian and Centre* tour, which takes you to the dry heart of Australia with its unsurpassed natural grandeur. The whole package would truly be "The Holiday of a Lifetime".

Sydney will be in a gala mood in 1988. We would love to entertain you at the Eleventh Australian Orchid Conference. Do yourself a favour and come, but time is running short. A registration form is included in this issue of the Australian Orchid Review; we don't mind if you give photocopies to all your orchid friends.

The conference secretary, Alan Alvis, 5 Knocklayde Street Ashfield, 2131, NSW, Australia, will be pleased to answer any queries.

Remember: This is the big one. This is Australia's Bicentenary Orchid Festival, The Eleventh Australian Orchid Conference •

## THE KING

*Dendrobium speciosum* — Commonly called Rock Lily or King Orchid, King being most appropriate because, in my opinion, this is the king of our native orchids, physically and in presence. With its magnificent growth habit, up to 200 canes with some varieties, and possibly 50% of them carrying strong multi flowered racemes, white to yellow, with

individual flowers to near four inches, this has to be the No. 1 orchid to grow.

Since Steve Clemesha's very detailed study of this orchid, he has classified it into six distinct varieties, they are, with a few details, as follows.

(1) *D. speciosum* var *speciosum*. A large form, normally found growing on rock in areas from Victoria to Paterson in NSW, also a few isolated areas to Scone and Buladelah. The best forms appear to be the Hawkesbury and Wattagan Mountains types, white to yellows.

(2) *D. speciosum* var *hillii*. A multi caned, tall, normally tree growing form, but also grows on rocks. Found from Paterson to Brisbane, white to yellows.

(3) *D. speciosum* var *grandiflorum*. A medium to tall form, normally grows on trees, but also on rocks in some areas. A mixture of poor to excellent flower forms, the best being about four inches, deep yellow flowers, all flowers varying shades of yellow only. Found from Brisbane to Miriam Vale, Queensland.

(4) *D. speciosum* var *capricornicum*. Similar to var *grandiflorum*, but smaller in all its parts, canes even in diameter throughout their length. Grows only on rock in the Rockhampton areas, on the line of the Tropic of Capricorn, flowers white to yellow.

(5) *D. speciosum* var *curvicaule*. A short to medium form, canes often curved, flowers white to cream. Grows on rock from Mackay to Thorntons Peak north of Cairns.

(6) *D. speciosum* var *pendunculatum*. A very short conical form, with tall rigid racemes, flowers on last third of raceme, white to dull yellow, short broad heavy textured segments. Grows on rocks on dry western side of dividing range from the Herbert to the Palmer River in North Queensland.

*Dendrobium speciosum* requirements are little — a good open mix of bark (pine or oak) and stones, and a position protected from the midday summer sun.

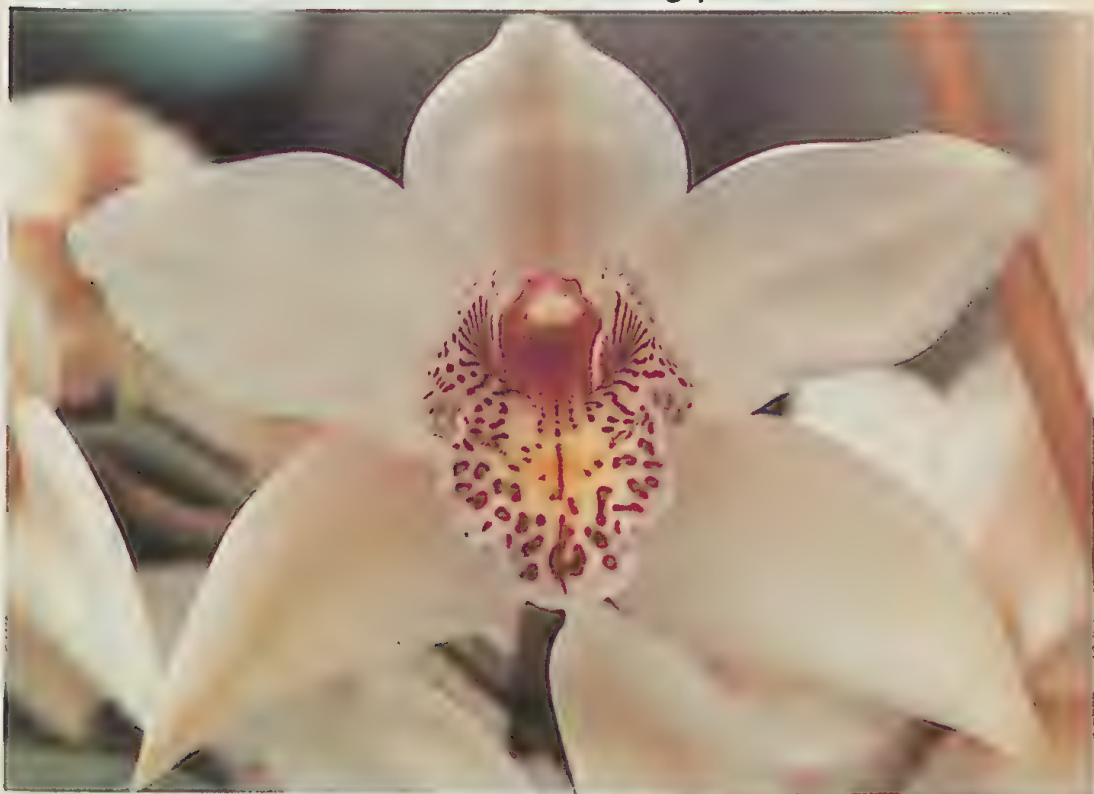
Conclusion: very rewarding — hard to kill •

BILL SKILLICORN  
A.N.O.S. Newcastle Bulletin

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# What makes a good stud?

Robert W. Nicolle

The answer to the question posed by the heading of this article is simple. For an orchid to be a good parent, it must be able to produce progeny superior to itself. This explanation is fundamental and there can be no argument. If a parent does produce progeny superior to itself, there is never any point in using that parent again, all further breeding should be done with the progeny. In a recent article on Modern Cymbidium Hybridizing in the American Orchid Society Bulletin, parents such as *C. Claude Pepper* registered 1968, *C. Coraki 'Margaret'* registered 1967 and *C. Solana Beach 'St Francis'* registered 1969 were advocated as parents. These varieties are all 20 years old. Varieties such as *C. Rincon 'Clarisse'* (4N) and *C. Firewheel 'Ruby'*

(4N) were discarded by us due to their inherent faults over 10 years ago.

When referring to tetraploid whites, the article suggests that they "have arisen almost entirely from pure-color diploids". In fact, *C. Alexanderi 'Westonbirt'* (4N) FCC/RHS is the progenitor of most of the white tetraploid crosses in the world today. *C. Alexanderi 'Westonbirt'* gained its award for Sir George Holford in England in 1922 and subsequently gained awards in the United States for Stewarts and others in the early fifties. For some reason the author of "Modern Cymbidium Hybridizing" has overlooked this wealth of white progeny and suggested that *C. Candeur* registered in 1945 is the white parent of the future.



*C. Sleeping Ransom* (*C. Sleeping Beauty* x *C. Sleeping Dream*) A seedling flowering for the first time. 14 spikes from one bulb with two new growths. The type of exaggerated characteristic hybridists should look for.  
Grower: Bill Bailey, Palos Verdes, California.



*C. Dream Valley 'Heather' (4N) (C. Valley Flower 'Cherry Ripe' [4N] x C. Sleeping Dream [4N]). This large spike of flowers was produced on the first flowering from a small plant. The type of production, arrangement and colour that excites commercial growers.*

## SELECTING ORCHIDS FOR STUD

It is easy to say that an orchid is a good parent after you have seen the progeny. However, you should not go back and re-use that parent to make the same cross unless you are looking for more of the same. If you are looking for the orchids of the future, you must breed on with that parent's superior progeny. This means that if an orchid is used in a cross, it should be

used only once. If the progeny are superior, you use them for breeding and if the progeny are not superior, why make the cross again?

Before you can select a plant to use as a stud, you must be aware of the requirements of orchid growers around the world today.



## REQUIREMENTS

**Vigour:** in the ease and speed with which a plant grows. It is important that the plant has inherent vigour, so that under ideal conditions it will flower from a small plant in 2 or maybe 3 years.

**Production:** Production refers ultimately to the number of blooms that the plant will produce and this is dependent on the number of new growths that are produced

from a bulb each year. Ideally a plant should produce a new growth from each side of maturing bulb each year and the new growths, as they mature, should produce a spike from each side. Some plants can produce more than one growth from each side of the bulb and can produce up to 4 spikes from each side of a new growth. This is the type of exaggerated feature for which a hybridist should be searching.



*C. Valley Girl 'Lavender Blue' (4N) (C. Roydon x C. Sleeping Delight) Flowered for the first time in 1986. The unusual blue/purple brush markings around the centre of the flower attracted the attention of judges who granted this flower an Award of Distinction at the International Show in Adelaide last year.*

**Timing:** The cymbidium season is increasing in length from both ends. This is a results of hybridists breeding to satisfy the requirements to cut flower and pot plants growers who benefit from a longer season. There are also special days such as Mothers Day, Christmas and St Valentines Day which are considered by commercial growers. The dates of big shows are considered by exhibitors.

**Colour:** Colour is probably the most important aspect of a cymbidium bloom. It is the colour of the flower that first attracts you to the plant. The colour can be anything from white through to almost black, but it must be attractive. The most popular colour for corsages is white and for pot plants, pink, New colours and combinations of shading and flaring is important in the pot plant and hobby market.

**Balance:** By balance I mean overall balance between the pot, the plant and the inflorescence. This consideration is most important to the pot plant grower and exhibitor. Balance includes the size and number of flowers. Different sizes and different numbers are required for different purposes. A long self supporting spike is desirable for cut flower production, whereas a medium length self supporting spike is much more desirable as a pot plant. A spike of small flowers will have to carry many more blooms than a spike of large flowers to look balanced.

**Longevity:** Longevity or long life is important in the inflorescence on a pot plant and a bloom that is cut from a plant for the cut flower industry.

Each year the requirements for cut flowers, pot plants and hobbyists change. The hybridist must be abreast of these trends and with creative hybridizing will set new trends in the future.

When selecting new studs, it is not good enough to cross two good orchids together. You will probably just get more of the same, some a little better, some a little worse. The progressive hybridist should be looking for outstanding and, in particular, exaggerated attributes. These varieties can then be combined with other studs so that

the characteristics are complementary. For example, a plant that has an exaggerated depth of colour and poor shape should be crossed with a variety that has exaggerated shape. A variety that has perfect shape and colour, but a short spike should be crossed with something with an exaggerated spike length.

## The parents of the future

The parents of the future are not those varieties that have already proven themselves. The parents of the future are in flasks today. They are the unflowered seedlings that have been produced from crosses in the last 2-3 years. Unfortunately, you will not recognize many of the names, but this does not mean that the varieties are not good. If you cannot visit the progressive hybridists around the world, then ask them for their colour catalogues or photographs of their new parents. This advice applies to all orchids, not just cymbidiums •

*Valley Orchids, Pimpala Rd, Morphett  
Vale 5162*

C. Dream Valley 'Heather' (4N) and C. Valley Girl 'Lavender Blue' (4N) grown by Valley Orchids and photographed by R.W. Nicolle. Olympus OM10, Kodachrome 64, in daylight.

## IMPORTANT TISSUE CULTURE REVISION

Professor Joseph Arditti is planning to revise and update his manual of orchid tissue culture propagation and requests researchers to send him reprints or photocopies of their publications on this and related topics. If possible articles in other languages should be accompanied by an English summary. Prof. Arditti hopes to illustrate the revision and would appreciate 2-3 copies of illustrated reprints since this will allow him to cut and remount some illustrations. The address is: Prof. Joseph Arditti, Department of Developmental and Cell Biology, University of California, Irvine, CA 92717 USA. •



# Of *Pleione* hybrids . . .

RONALD KERR



A specimen potful is a glorious sight. A photo taken by A.B. Porter of *Pleione formosana*. Unfortunately we do not have the grower's name.

It may seem extraordinary that in a genus whose flowering potful can be so attractive hybridising should have been neglected for so long.

Possibly the markedly annual growth cycle induced nurseries to regard it as too labour intensive for a small market. A market filled in any case by alpine plant and bulb nurseries.

Consequently the first hybrid was only registered in 1966 by the late Dr Morel of Versailles who, incidentally, was the first to apply the meristem propagation technique to orchids.

Appropriately, Dr Morel registered his cross of *P. formosana* x *P. limprichtii* as *P. Versailles*. The best clones have proved superior to both parents, and two clones have received Awards of Merit from the RHS. It has been used for breeding.

There were no more registrations until 1977 when Dr D.J. Harberd of Leeds

registered *P. Shangtung* (*formosana* x *forrestii*). Note that *P. forrestii* as used is now known to be a natural hybrid *P. x confusa*. The latter is considered to be a cross between the true *P. forrestii* and *P. albiflora*.

Orchid authority and writer Alec Bristow also registered a cross, in 1979, *P. Ruth* (*pricei* x *humilis*).

The year 1978 saw the first registration by the Butterfield Nursery *P. Vesuvius* (*yunnanensis* x *forrestii*). The latter now known as *P. x confusa*. This heralded the start of a specialist pleione nursery dedicated to a planned breeding program to produce improved horticultural plants.

Hybridising has widened the flowering spectrum to more than half the year, increased the flowering longevity in some crosses, produced better flowers, and created a new interest among English orchid growers. This is now seeping

through to other countries, particularly since many of the hybrids are proving easier to grow than most species. In Australia they have appeal for the cool house grower and growers in cool areas. In warm areas they can do well if the temperature can be kept to a maximum of 30°C with an evaporative cooler, or by creating a breezy micro-climate by other means.

The only Australian specialist is Norm Collins of Gladysdale, Victoria. In the last issue I suggested you get his brochure. While an excellent grower Norm is not aware of the importance of correct nomenclature. Refer to the last issue.

Only four of his listed plants are hybrids and each is worth having. They are:-

*P. Versailles* 'Buckleberry', AM RHS. Grown by Brian Williams, an ex-editor of *The Orchid Review*. It has been used in breeding.

*P. Shantung* 'Norm Collins'. The yellow of *P. x confusa* comes through in this clone.

*P. Shantung* 'Pink'. A pale pink with a beautiful tawny orange and yellow lip.

*P. x confusa*. A pale form of this natural

hybrid, lemon yellow in the labellum with orange markings along the keels.

The demand for hybrids in Australia will grow. Accordingly a list of all hybrids registered to July, 1987 is appended.

In the last issue the story of *P. x confusa* was told so briefly it did not incorporate the drama. Plants collected in China by George Forrest, a Scottish explorer and plant collector, were maintained in Edinburgh Botanic Gardens, but in the rigours of World War II only one live bulb remained by 1946. It was slowly built up until a few divisions could be sent to nurseries.

Dr David Harberd, a lecturer in plant breeding, acquired a piece from the Infwersen Alpine Plant Nursery and crossed it with *P. formosana* to produce *P. Shantung*. Out of 65 mature seedlings 62 were fantastic. How Dr. Harberd, a knowledgeable plant scientist, was able to make important deductions from this breeding is a remarkable story. Details of this scientific detective work can be found in *The Orchid Review* for April 1987. It's fascinating. If you aren't subscribing put it



*Pleione Versailles* flowering at Kew Gardens. Photo by Ron Kerr.



to your society to do so. See their advertisement in this issue.

In *The Orchid Review* for May, 1987, Ian Butterfield and Chris Bailes describe and picture some of the fine clones parented by *P. Shantung* studs. Hopefully these are ones which will be coming to this country. The colours are intense, the lips alluring, the impact of a potful breathtaking •

## APPENDIX

List of registered crosses

Six hybridisers have registered crosses: Morel, Dr G., code M; Harberd, Dr D.J., code H; Bristow, A., code B; Hazelton M.J., code HA; Pinepank H., code P. All uncoded names are by the Butterfield Nursery. Parents are given as in Sanders. Refer to this and previous article for name changes.

1966

Versailles = *formosana* x *pogonioides* M

1977

Shantung = *formosana* x *forrestii* H

1978

Vesuvius = *yunnanensis* x *forrestii*

1979

Alishan = *formosana* x Versailles HA

Eiger = *formosana* x *humilis*

Etna = *pogonioides* x *limprichtii*

Ruth = *pricei* x *humilis* B

Stromboli = *pogonioides* x *yunnanensis*

Tolima = *formosana* x *limprichtii*

1980-81

El Pico = Versailles x *yunnanensis*

Fuego = *formosana* x *yunnanensis*

Katla = *limprichtii* x Versailles

1982

Barcena = *formosana* x *praecox*

Brigadoon = *forrestii* x *pogonioides*

Sangay = *limprichtii* x *praecox*

Tarawera = Versailles x *praecox*

Soufrieria = Versailles x *forrestii*

Tongariro = Versailles x *pogonioides*

1983

Asama = *speciosa* x Vesuvius

Dadan = *limprichtii* x *humilis*

Cerebus = Versailles x Vesuvius

Helka = *pogonioides* x *humilis*

Irazu = Etna x Shantung

Jorulla = *limprichtii* x *yunnanensis*

Lipari = *yunnanensis* x Vesuvius

Matupi = *limprichtii* x Shantung

Rakatu = *pogonioides* x Shantung

Sorea = *hookeriana* x *bulbocodioides*

Turtsey = Shantung x Versailles

1984

Fu Manchu = *speciosa* x Eiger HA

Yu Shan = *pricei* x *speciosa*

1985-86

Double Dose = Fulgo x *limprichtii*

Fujiyama = El Pico x Shantung

Helgafell = Eiger x *yunnanensis*

Kilaula = *formosana* x Eiger

Lascar = Fuego x *limprichtii*

Nero Wolfe = *praecox* x *bulbocodioides* P

Novarupta = Versailles x Southfrieria

Pancutin = Tongariro x *confusa*

Piton = *formosana* x *yunnanensis*

Sajama = *limprichtii* x *hookeriana*

Tamberlane = Alishan x Tolima HA

Tsingtou = *humilis* x *praecox* HA

Wunzen = Erebus x *yunnanensis*

1987

Kublai Khan = *formosana* x Stromboli H

Shukoran = Alishan x Versailles H

First named is the pod parent.

Very few of the above plants are likely to be in Australia.

The list can be a guide to buying and checking the names of plants on sale. It could be unwise to buy a plant whose name does not agree with a registered name, one of the species listed in the previous article, or a synonym name of a species.

## References

The genus *Pleione*. Kew monogram.

*The Orchid Review* (English), April '87; May '87.

*Aust. Orchid Review*, June '87.

# 1987 AWARDS

The ability of the publishers of A.O.R. to fund the 1987 Orchid Awards publication is in doubt. The quality publication has very high set up costs. Notwithstanding the \$9.95 price tag it has been a loss project on sales of 700. We need at least 1200 sales to break even. Sales of 2000 would mean a price drop to around \$7.50.

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Min 869 *C. parishii* 'Emma Menninger' x *Sensation* 'Cecil Park' *Pinks*

Min 868 *C. parishii* 'Emma Menninger' x *Negrito* 'Nutmeg' *long spiking browns.*

Min 867 *Sweet Spring* 'Freezia Odorata' x *Sensation* 'Cecil Park' *Little gems in red with perfume.*

Min 865 *C. bicolor* x *C. suave.* *Small Heat Lovers.*

Min 863 *Sensation* 'Cecil Park' x *C. suave* (Green) *Deep red beauties with pendulous spikes*

Min 861 *Peter Piper* 'Bitter Sweet' x *Tethys* 'Black Magic'. *Tall spiking purples & polychromes.*

Min 860 *Peter Piper* 'Bitter Sweet' x *Khyber Pass* 'Treva' *Bright Reds*

Min 859 *Piccaninny* x *Negrito* 'Nutmeg' *Very dark browns on long pendulous spikes.*

Min 857 *Piccaninny* x *C. grandiflorum.* *Early flowering green miniatures, perfumed.*

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# Funny Story Competition

A joint effort by Dennis and Vicki Kroll has won our Funny Story Competition for this issue and again the prize goes to Queensland. I'm sure most readers can identify with this humorous introduction to orchid growing.

Congratulations Dennis and Vicki Kroll we will be sending you a copy of "Orchids in Australia" (value \$49.95).

Thank you to all our readers who sent in contributions to this competition (and for keeping our judges highly amused). Unfortunately this competition is now closed.

## Cats, Cabbages and Cattle

Once I got my foot inside the door I was pounced upon by the Orchid Society's hostess who seemed to be one hundred and ten not out. I was wizzed around by this woman who introduced me as a new grower to the President and other members of the Society before the meeting was called to order.

The formal procedures got under way and I learned a little of how the Society was run. Then they announced that the guest speaker was a "cat breeder".

The thought hit me — what on earth has a pussy breeder got to do with orchids?

The speaker rose and began. First of all he announced he was very upset about a previous speaker calling his first love cabbages.

Now I'm bewildered — cats and cabbages.

He went on to speak about "Cattle-Layers".

Now I don't know if I'm at a cat show, a vegetable market or a cattleman's convention.

He proceeded to say his best results were obtained by feeding his cats only once a week with either blood and bone, hoof and horn or fish emulsion — now that's what I call one heck of a diet.

Continuing, he said his main problems were pests and diseases. He spoke about mealy bugs, scale and virus. I got confused. What are these bugs without meals? These scales without fish? These virus without

colds? Finally what has all this got to do with cats, cabbages or cattle.

He produced from a carry box a plant with a magnificent flower. As he raised it above his head for the members to see, he asked, what right did the previous speaker have to criticise this plant with its full rounded flower — as a cabbage. Possibly he is a jealous orchid grower of other types?

Well that makes sense I thought, we are now back to talking orchids. Maybe I'll learn something at last. But unfortunately he had finished his talk.

The meeting was closed and a cup of tea was offered, but I slipped away quietly in case I was asked "How did you enjoy the talk?"

Upon arriving home I raced to the bookshelves to find my one and only orchid reference book. I soon found a picture of the flower on the plant shown at the end of the talk, and hurried to read about it.

I was amazed to learn that cats and cattle-layers are actually an orchid named after William Cattley and should be pronounced kat-lee-ya. Hence the talk had nothing to do with cats, cabbages or cattle.

As many years have passed since that first orchid meeting, I have found the terms of orchid growing less confusing. I have also found the societys' hostesses are getting younger — or am I just getting older? ●

# INTERGENERIC HYBRIDISING WITH REED STEM *Epidendrum* OLD HAT OR NEW FRONTIER?

David Curley



*Epidendrum* Morning Star

One of the earliest hybrids produced, *Epiphronitis Veitchii*, will reach a milestone within the next couple of years. A century will have passed since the registration of *Sophronitis grandiflora* X *Epidendrum radicans*.

Perhaps it is fitting now to look at some of the advances made with reed stem epidendrum hybridising since those early beginnings in the late 1880's and to consider some possible suggestions.

Most orchid growers would be well aware that reed stem epidendrum have been crossed with other members of the Laeliinae subtribe to produce prolific growing hybrids which can withstand the rigors of summer sun and winter frost. Indeed some of these beauties, produced decades ago, survive in our garden beds

today growing happily in dirt and are usually the last thought of when feeding or fertilising is considered. Surely this is an indictment of the stamina that reed stem epidendrums possess and an indication that much could be accomplished when selecting such parentage in these times of spiraling power and energy costs.

Prospective breeders should note that there are two types of reed stem epidendrum — the resupinate and the non-resupinate. That is, those with the crucifix or lip pointing upwards (resupinate) and those with flowers in the traditional form with lips carried lowermost (non-resupinate).

Most of our garden crucifix orchids are resupinates and are thought to be closely related to *Epidendrum elongatum* (See the



lovely article by G.C.K. Dunsterville, American Orchid Society bulletin Vol 48 No 5 May 1979). In Australia, over the last thirty years, selective breeding has produced an array of superior garden-type reed stems referred to as 'Kings' and some of these have very large heads with individual flowers measuring 5cm across. They are very dominant for plant character, having tall stems with some the width of one's thumb. This could be due to the fact that many of them are tetraploids. Unfortunately, these 'Kings' do not freely combine in bigeneric crosses.

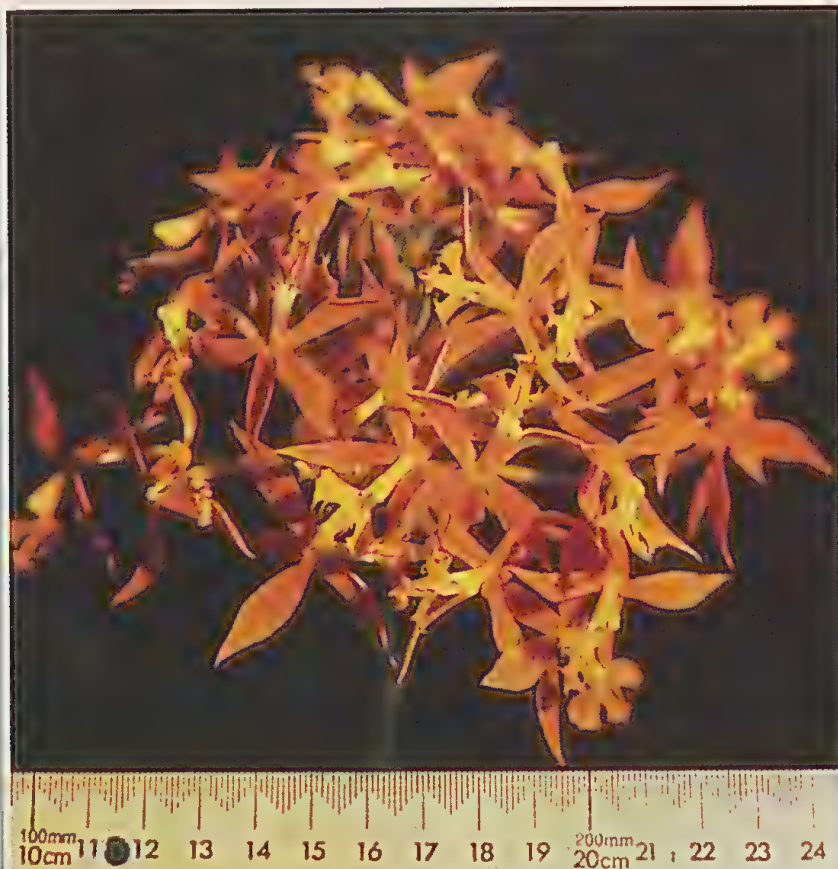
Experience has shown that good results can be achieved when the non-resupinates are used in bigeneric crosses. To avoid argument I refer to the following non-resupinate species ie. *Epidendrum ibaguense*, *E. radicans*, *E. pseudepidendrum* and other closely related reed stem species such as *Barkeria lindleyana*. These species, provided they are used as male parent, will combine reasonably easily in crosses with many of the small cluster type cattleya. Attempts at intergeneric crosses, using the reed stem host as pod parent, generally have been

fruitless. This may have something to do with the gestation period of the respective plants. Reed stem epidendrum can produce ripe seeds within 3 months of crossing whereast cattleya, laelia, etc. require some 9-11 months to do the same. Perhaps it may be reasoned that, if a plant normally takes 60-90 days for its pollen tubes to reach the ovary. It may have difficulty when it is coupled with another species which does the same function in about a third of the time. One point to note when hybridising with reed epidendrum pollen — always place several or more pieces of pollen onto the stigma of the recipient flower. This will enhance chances of a good mating occurring.

Now let's look closely at some of these species. *Epidendrum ibaguense* is described as a very variable terrestrial with stems up to or over 90cm high. *Epidendrum radicans* is considered by some to be synonymous with *E. ibaguense*. In Australia, *Epidendrum radicans* grows to about 60cm and is somewhat vinelike. It produces 6 or 7 orange/yellow flowers on a terminal inflorescence. It has been used quite successfully in the breeding of shorter



*Brasseoepidendrum Pseudosa* (*E. pseudepidendrum* x *B. nodosa*)



*Epidendrum ibaguense* var *schomburgkii*

stock. *Epidendrum ibaguense* var *schomburgkii*, on the other hand, grows to well over a metre producing a massive head of some 30/40 flowers. The tip of the spike is a dense cluster of buds which continually forms a succession of dainty 3cm flowers, sometimes for months on end. In a good year it is not unusual to count 120/140 individual flowers produced. This particular clone, also known as *E. schomburgkii*, readily breeds with many other members of the Laeliinae subtribe and well as with most reed stems, both resupinate and non-resupinate. It should be used more in intergeneric combinations to take advantage of its strong plant character and multi-flowering habit.

*Epidendrum cinnabarinum* has in recent years been used in quite a number of intergeneric crosses. A particular clone var 'palolo strain' has produced excellent progeny, most of which suggest that the reed stem parent is a non-resupinate yellow

or orange. All the clones of *E. cinnabarinum* which I have seen in Australia have been red or reddish yellow and have all been resupinate. However, good variants of individual species can be developed by self or sibling crossing and *E. cinnabarinum* var 'Palolo strain' is more likely one of these.

*Barkeria lindleyana*, a species from Mexico and Guatemala, is quite a useful breeder but can only be used as the male parent in crosses with cattleya, laelia, etc. This species is quite floriferous and produces beautiful lilac flowers. Some individual clones of *Bark. lindleyana* are naturally short which can be an advantage in breeding.

*Epidendrum pseudepidendrum*, with its brilliant green sepals and petals, pink column and waxy orange or red lip, has proven to be an excellent parent. Whether it can be considered a close relative of the other reed stems is a moot point. Unlike the



others it has the ability to hold a seedpod when crossed with other intergeneric subjects. Also, it does not produce any more than say 4 or 5 flowers on a spike, which is a pity. However, *E. pseudepidendrum* is a very dominant parent which passes both its shape and colour to its offspring.

Any article on reed stem epidendrum hybridising would not be complete without mentioning *Epidendrum* O'brienianum. Several decades ago this hybrid, (*Epidendrum erectum* X *Epidendrum radicans*, registered in 1888), was used widely in creating fine reed stem *Epicattleya* hybrids and many of these continue to thrive today. Now *E. O'brienianum* is resupinate. This is no

doubt due to the influence of *E. erectum*, a little known close relative of *E. elongatum*. As a resupinate, there is some strong doubt whether *E. erectum* would readily breed in any union with bifoliate cattleya. However, its offspring assisted, of course, with some *E. radicans* in the bloodline happily combine with a few cattleya species. The fact that most of the intergeneric progeny produced from *E. O'brienianum* crosses turn out to be both resupinate and sterile poses some interesting questions. How can *E. erectum* continue to dominate in a cross where its contribution has been diluted to one-quarter? Why are the resultant hybrids sterile? Why are they resupinate when three-quarters of the input is from non-resupinate background? Would all the seed



*Epicattleya Rene Marques* (*E. pseudepidendrum* x *C. Claesiana*).



*Epicattleya Fireball 'Enewetak'*

from such crosses be consistently triploid? Perhaps these questions suggest that some research into the genetics of reed stem epidendrum should be undertaken. Surely these very beautiful hybrids, which can grow happily out in the open in temperate areas, would be enough commercial potential to justify the cost of any investigation.

### Some Hybrids produced in recent years

*Brasseoepidendrum Pseudosa* (*E. pseudepidendrum* X *B. nodosa*) inherits many of the better characteristics of each of its parents. It has shorter stems due to the influence of the *Brassavola* as well as the crisp flower colouring from the epidendrum. It is a vigorous grower and will develop into a good specimen fairly quickly. Old flower spikes should not be cut off or broken as new spikes will develop from the bracts along the old stem. In view of its colour, *Bepi. Pseudosa* has some potential as a parent. However, hybridisers should note that this plant has a strong preference to be the female or pod parent unless it is crossed with plants containing

*E. pseudepidendrum. Bepi. Pseudosa* can flower anytime during the year.

*Epicattleya Fireball* (*C. Lutata* X *E. cinnabarinum*) has the typical plant habit of the reed stem epidendrum with stems growing to 90cm or more. It produces large heads of up to 20 flowers, each one a jewel. The canary yellow and burgundy red lip is quite distinctive. Unlike the other reed stems this plant does not produce aerial growths but it is a strong grower and can be easily encouraged to throw multiple new leads. Generally it flowers in autumn and inflorescences have good lasting qualities. *Epc. Fireball 'Enewetak'* is somewhat reticent as a parent but it will produce viable seed if crossed with a suitable non-resupinate epidendrum.

*Epidendrum Morning Star* (*Encyclia mariae* X *E. radicans*) has very short reed stem characteristics, although its canes are much broader than usual reed stems. It is a very vigorous grower readily producing multiple new growths and will throw aerials freely from old stems. It flowers in early spring producing heads of up to 7 or 8 flowers. The large round lip (up to 35mm



across) is quite noticeable and is no doubt inherited from *Enc. mariae*. *Epi* Morning Star will not act as a male parent and for that matters responds only reluctantly as a female. Pods will form only to drop away a few weeks later. One has to resort to non-resupinate epidendrum species to produce seedpods in any union with *Epi*. Morning Star, the viability of these seed can be quite low.

*Epicattleya Rene Marques* (*E. pseudepidendrum* X *C. Claesiana*) inherits its softer colouring from the cattleya. This plant grows to about 40cm and produces spikes with 5 or 6 flowers. Next generation crosses with epidendrum hopefully will retain these softer colors and gain floriferousness for the progeny.

### POSSIBLE FUTURE DIRECTION

The above discussion centres on only four hybrids which are a small cross-section of breeding results over the last two decades. Bearing in mind that hybridising in this area commenced nearly a century ago, it is interesting to note there have been very few registrations which have gone on to combine these intergenerics again with reed stem epidendrum. There seems to be some reluctance to continue with reed stems in breeding. This is hard to understand, considering the floriferousness and tenacity of these plants.

In order to overcome genetic difficulties it may be well to start again from scratch, using the best of variants available. Perhaps improved clones along the lines of *Epi* O'brienianum could be produced with the eventual aim of making short floriferous *Epicattleya* hybrids. Perhaps we should even consider improvement of the species available to us for hybridising. In this regard, I would like to quote from a conference paper on Oncidiinae Breeding by the late W.W.G. Moir at the Sixth Australian Orchid Conference, Hobart Tasmania 1979.

"For Australian growers I certainly would recommend their getting the best species and at least several variants of each:

Then growing these variants in different environments, followed by sib crossing them and raising the offspring in as many environments as possible. By doing this one can build a strong supply of the species that are almost as good as in their native habitats and then not have to go back to nature for a rejuvenation every few years. It has to be a cooperative process and everyone helping each other wholeheartedly or you all suffer. The quickest way to degeneration of a species is to keep it in one place and breed it. Be generous to each other with good pollen and divisions, and all will benefit."

It is the writer's opinion that what has been achieved over the last 100 years is just the beginning. We can only hope that future advances will be accomplished quickly so that more people can enjoy these easy-to-grow orchids •

9 Jagger St., McDowall, Qld 4053

## ATTENTION CONTRIBUTORS

Australian Orchid Review welcomes contributions from readers.

Articles should be typed double spaced and submitted to the Publications Manager, Australian Orchid Review, 14 McGill Street, Lewisham NSW 2049.

To ensure the prompt return of your slides please make sure that your surname is on each slide and also include a return address.

It's helpful for our printer if you mark the "top" on each slide.

Thank you for your co-operation,  
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# COELOGYNES

## Especially *Coelogyne flaccida*

Ross Berglund



This glimpse of the realm of Asian orchids provides a foretaste of the wonders in store at the Third Asia and Pacific Orchid Congress to be held in Adelaide during September 1989. Northern Territorians too promise a tropical bonanza of orchids and fun when they host the Tropical Queensland Orchid Council Conference in June 1988.

We have now been growing *Coelogyne flaccida* for about 12 years. From a two-bulb plant we now have a specimen which fills a 35cm diameter (20cm deep) terracotta pot; it has flowered every year and last spring it rewarded us with more than 40 spikes carrying well over 500 flowers. The pot literally was curtained with flowers.

We always bring it inside when in flower and as the day temperature rises it fills our sunroom (and indeed the whole house) with its delightfully heady fragrance. The flowers last for at least three weeks, sometimes much more if temperatures are not too high.

This specimen has been growing in a mix of basalt (blue metal), charcoal, and bark, for about five years now (with no repotting), a mix which seems to suit it very well. The crushed basalt is about 2cm x 1cm size and our plant has thrived since we added this to the mix. Throughout the year it grows on a sandstone ledge behind a straggly hibiscus (*schizopetalus*), so that it receives full sun for several hours each morning and then light shade (winter) or heavy shade (summer) for the remainder. As with all of our orchids (which are all grown without structured shelters and are scattered around in the garden) this specimen receives a few lumps of cow

manure each spring and when we get around to it, an occasional fertilizer spray (Aquasol, etc). There are also overhanging trees which provide some detritus. Watering is regular, daily in summer. Our harbourside location at Northbridge is facing north, protected from cold southerlies, and with good sea breezes — we easily grow bananas, etc.!

*Coelogyne flaccida* has been a favourite of ours for years but last spring, I did not know our interest was about to be enhanced by seeing thousands of this species growing in the wild, as has just happened, during a trek in Nepal. Our trek, covering 17 days over Christmas 1986/New Year 1987, was to the very beautiful Langtang Valley of the Himalaya. This period, of course, is mid-winter there but it is generally dry and clear, even if cold; this was certainly our experience — sub zero temperatures each night, but pleasantly warm and clear days. We did however, have one very cold night (with snow) in the Langtang Valley at 3,500 metres. Langtang is roughly north of Katmandu, on the Tibetan border; the higher peaks of Langtang and Langtang Lirung are about 7,300 metres.

The purpose of this note is not to dwell on the special magic of trekking in the Himalaya — suffice to say it is a very special, rewarding, experience — we will never forget those snow covered peaks and their snow plumes blowing into a blue sky, nor the sight of rhododendron trees in bloom (even if only an odd one this time of the year).

And having seen the hillsides above 3000 metres covered with shrubby rhododendrons (*R. setosum* and *R. lepidotum*) which looked like azalea bushes, and the primulas, daphne, etc., in the mossy rhododendron, beech, and birch forests, we can just visualise what spring must be like.

We came across only two orchids in flower, but even that, at this time of the year, was a surprise to our Sherpas. One we have identified as *Chiloschista lunifera* — a leafless string of pseudo-bulbs (about the size of *Coelogyne cristata*) with 10-15cm long drooping thyrses of tightly packed creamy flowers, like fox tails. The other, we

think, was a *Bulbophyllum* species (2cm purplish flowers on an upright spike). Both were growing on large boulders at about 1,800 metres elevation.

It was a thrill to find our first, and as it turned out to be our only, *Coelogyne cristata* near Syabrubensi at about 1,700 metres, growing on a dripping wet, moss and grass covered, rock ledge on a treeless slope facing north. This clump had spikes about a quarter grown — as they would be in Sydney around July/August! It convinced me yet again that *Coelogyne cristata* should have its roots cool and moist, and its head in bright light — it is not a subject for hanging baskets. The Nepalis call it Angel Orchid — what an appropriate name! A metre or two away from this find was also our first sighting of *Coelogyne flaccida*, sporting many seed pods, and growing on a drier part of the same rocky ledge. It is recognisable by the shape of the bulbs and leaves — I initially logged it as either *Coelogyne flaccida* or *Coelogyne massangeana*, which I think are similar plants, but my reference ("Orchids of Nepal")<sup>1</sup> does not record *Coelogyne massangeana* for Nepal Himalaya.

On the way up to Langtang our next coelogyne was found at about 2,500 metres elevation as we encountered open rhododendron forests. There were many of these plants growing on the corky bark of these old gnarled trees I suspect they were *Coelogyne flavida*, *C. corymbosa*, etc. On the same trees we saw at least two species of small bulbophyllum type plants and an obovatia species — miniature plants of only a few centimetres hanging down from the rhododendron branches, but bearing many seed pods.

The larger forest trees, beech, etc., carried masses of orchid plants — some certainly coelogyne, and we saw these up to about 2,800 metres elevation.

We saw little evidence of orchids above that elevation, but several terrestrials, including pleione, are recorded in the langtang Valley at 3,500 metres and more. Our return trail took us across the river

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"Orchids of Nepal" — Banerjee & Thapa, 1978  
University of Kalyani, West Bengal.



into lush rain forests (lots of white daphne in flower, plants of *Monstera deliciosa* — or a very, very close relative!) Then we saw more rhododendrons and bamboo, and then open, terraced and cultivated, hillsides from near Syabru at about 2,300 metres elevation. It was from here that we started to find *Coelogyne flaccida* en masse. We saw it on large boulders and bare rock faces everywhere, including south facing boulders which would have the maximum sunshine. Many of the plants had almost yellow pseudobulbs, such was the light intensity, but they were obviously very much at home, with loads of pods. I did notice that there always seemed to be lichens present (usually the roots of *Coelogyne flaccida* could not be seen, even on otherwise bare rock faces) which led me to speculate that this might be more than just a happy cohabitation. The largest plant we saw would have covered about six square metres — the leaves are noticeable. Most of the host rocks were heavily veined with mica and quartzite — what I would describe as micaceous schist, and some were more like siltstones and basalt. mica is very common in this area — even the soil sparkles!

From our particular route I would say *Coelogyne flaccida* occurred about 1,200 metres to 2,400 metres with maximum profusion at about 1,700 metres. This is monsoonal country with long dry periods (nights sub-zero and days 15° C or so) in winter. In many places there were residual snow patches in the shade within metres of many of the clones we saw. There were occasional plants of *Coelogyne ovalis*, on rocky outcrops in the same area. It is, I think, easily identified by its straggly habits, but *Coelogyne ochracea* can also appear rather untidy at times.

As for other genera, we are confident of the identification of *Eria spicata*, several *nobile* type *Dendrobium* species, *Saccolabium* sp., *Otochilus porrecta* or *O. alba*, and *Bulbophyllum* species on trees, as well as the coelogynes. We saw calanthe leaves on mossy banks, upright leafless dendrobiums (*D. crepidatum*?) on boulders, and one vandaceous species. We visited the Royal Botanical Gardens at Godavari, about 17km from Katmandu, to



A close up of *Coelogyne flaccida*.

#### Photographic Note:

The transparencies were photographed with a Hasselblad 500CM, 150mm Sonnar lens, using natural light with reflectors. Fujichrome.

confirm some of our plant identifications. Only one plant in the orchid house, *Otochilus alba*, was in flower in early January, but we still found it all of great interest. We were somewhat disappointed that a Botanical Gardens in this location and with such orchidaceous wealth all around was not maintained at a higher standard, but I acknowledge that the few visitors, with their entrance fee of ½ Rupee (about three or four cents) do not really contribute much! One lasting memory of the Botanical Gardens was a local chap selling orchid plants just outside the main gates — huge plants of coelogynes, saccolabiums, erias, dendrobiums — we were offered a dendrobium (perhaps *D. pierardii*) with 20 or 30 bulbs, each one about a metre long — “15, 10, 5 Rupee — you tell me how much?” Can you imagine such a gem for 30 cents and, for quarantine (and conservation?) reasons, you are a non-buyer?

We are so pleased we made the commitment to train for a year so that we could trek in the Himalaya, and we are full of admiration for Ausventure, and our leader Jim Dorrington, who organised it all. It was such a thrill, and a bonus, to see our pet orchids “au naturelle” even if the flowers had set their seeds long ago! ●

# The safe use of pesticides

A.J. Merriman

In 1978, a new Pesticides Act came into being. This superceded the old Pest Destroyers Act, 1945. The new act controls the sale, use and the possession of pesticides. The term Pesticide under the new act, includes the following; — Algacide, Biological Pesticides (e.g. Dipel), Fungicides, Herbicides, Insecticides, Molluscicide (e.g. snail baits) and Rodenticide (e.g. rat baits).

It is very important under this new act to read the label very carefully. It is now the legal responsibility of the user of a pesticide to read or have read to him all the details and instructions contained on the label. It is also illegal to have in your possession an insecticide that is not registered in your state. Under the Pesticide Act it is illegal to use a pesticide that is not registered for a particular crop, and for a particular pest or disease unless it is on the label. This also means you must use the insecticide at the rate that is on the label. All safety precautions that are printed on the label must be obeyed, such as protective clothing and other precautions that apply to the insecticide while being used and stored.

Most orchid growers buy their insecticide from reputable orchid nurseries and therefore are only sold pesticides that are registered for use on ornamentals (e.g. orchids). For your own safety please read the label very carefully. Before opening the bottle or can, protective clothing must be worn. The minimum recommended clothing is a boiler suit, long rubber gloves, rubber boots, respirator, hat, and if using a highly toxic insecticide a face mask. You should not wear your usual clothing under your boiler suit.

Before you start mixing make sure you have a bucket of clean water and a dry clean towel handy in case your body is splashed by the insecticide. Don't forget the cake of soap.

Ensure that when mixing pesticides you

do it in a well ventilated structure or better still, do it outside. Be careful when opening the container. Sometimes the can spurts when opening. Take great care when pouring into the spray vat.

Before spraying make sure that all the pathways are clear of all obstruction. Make sure that the day will not be too hot. If the day looks like being over 90°F, do not spray for if you are using an emulsifiable concentrate (e.g. ROGOR 40) there is a chance you could burn some of your orchid leaves and bulbs. Do not spray if it is too windy. Remember you are going to spray the plants, not yourself. Make sure your plants are not in need of moisture. If your plants are in need of moisture and you spray, there is a good chance that your plants could suffer from phytotoxicity (burn).

When applying the insecticide make sure you wet all of the under sides of the plants leaves. If it is a drench type fungicide, make sure you apply the required amount of spray to the top of the pot. e.g. (Fongarid, Ridomil).

When you have finished spraying, wash all clothing separately, not with your usual washing. Wash your body very thoroughly with hot soapy water under a shower.

**REMEMBER,** Do not eat, drink or smoke while spraying, mix all chemicals with care, clean up all spillages and store all insecticides in a LOCKABLE shed.

## WHAT FORMULATION WHEN!!!

With orchids it is very important to use the right formulation at the right time. Wettable Powders (W.P.) are usually the safest to use on orchids. Sometimes they leave a residue on the plant and if the plant has open flowers the residue could detract from the flowers beauty. If the plant has open flowers, one should keep the spray down on the plant not up in the air, or use an insecticide that is whiter than cream, and one that uses a low rate of concentrate



(e.g. BENLATE and LANNATE W.P.) Most powders need a wetting agent such as PLUS-50 to make the spray stick to the leaves, but do not use a wetting agent if the plant has racemes with buds out of a sheaf or opened flowers as the wetting agent could cause quilling. Generally most wettable powders do not have a long residual effect against pathogens.

Emulsifiable Concentrates (E.C.) are the most commonly used insecticides. As a general use, E.C. have a longer residual effect on the plant, are more toxic to the user and can be more phytotoxic to the plant (burning of leaves). Most E.C.s seem to have a better kill rate than wettable powders, but this could also be the applicator's fault. As a rule most E.C. do not need a wetting agent. It is also advisable to spray E.C. only on cool days (under 75°F).

Dusts are not used today because of the drift into areas that do not need any pest control. Hobby growers find them very useful in small glass houses. It is very important to start at the far end of the glass house and work towards the door. Dust guns or blowers are not very effective as the residue only lands on the top of the leaves, not under. Some of the common dusts that have been used by orchid growers are lanes. All In One Dust, Topclip (diazinon) and Malathion.

It is good practice not to mix insecticides, especially E.C. and W.P. together. If you wish to use an insecticide and a fungicide, please read the label!

#### List of hazard ratings of some pesticides used by Orchid growers

PHARMACEUTICAL NAME	BRAND NAME
------------------------	---------------

##### Extremely hazardous

Aldicarb	TEMIK
----------	-------

##### Highly hazardous

Azinphos-methyl	GUSATHION
Methamidaphos	MONITOR
Methidathion	SUPRACIDE
Paraquat	

##### Moderately hazardous

Azocyclotlic	PEROPAL
Binapacryl	MOROCIDE

Cabaryl	BUGMASTER SEVIN
Demeton-S-methyl	METASYSTOX
Dimethoate	ROGOR PERFEKTHION
Diquat	
Endosulfan	THIODAN
Fenthion	LEBAYCID
Methiocarb	MESUROL
Methomyl	LANNATEL L
Pirimicarb	PIRIMOR
Thiometon	EKATIN

##### Slightly hazardous

Amitrole	
Benomyl	BENLATE
Bromopropylate	NEORON
Bupirimate	NIMROD
Chlorothalonil	BRAVO
D.D.T.	
Picloran	ALLISAN
Dicofol	KELTHANE
Dithianon	DELANE
Diuron	
Febutatin oxide	TORQUE
Maldison	MALATHION
Mancozeb	DITHANE '45
Metiram	POLYRAM
Oxythioquinox	MORESTAN
Propargite	OMITE
Simazine	
Thlophanate methyl	TOPSIN
Thiram	
Zineb	
Ziram	

##### Non hazardous

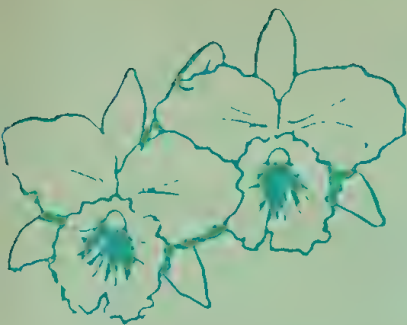
Bacillum thuringiensis	DIPEL
------------------------	-------

##### L.D.50mg/kg

ORAL	DERMAL
5 or less .....	10 or less
5-50 .....	10-100
50-500 .....	100-1000
over 500 .....	over 1000

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**C. Ruth Gee 'Carmela Orchids'** HCC/AOS (50mm tubes, \$7 ea; Com pots, \$40ea). Large exhibition white with yellow in lip of overlapped shape.

**Blc. Iroquois Trail 'Midfarm'** FCC/AOS (50mm tubes, \$7ea; Com pots, \$50ea). Large dark purple exhibition of high award shape.

**Lc. Lisa Ann 'Tai Lee'** (50mm tubes, \$7ea; Com pots, \$40 ea). Large full shaped dark red exhibition clone.

**Slc. Hazel Boyd 'Orange Tart'** (50mm tubes, \$7ea; Com pots \$45ea). Medium size burnt orange of full shape from compact plants.

**Slc. Wendy's Valentine 'June'** AM/HOS (50mm tubes, \$7ea; Com pots, \$50ea). Medium size fire engine red with yellow in lip from compact plants.

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An overall view of Wal Rhodes' glasshouse. Photo: Ron Kerr

# A Collection is Built

Ron Kerr interviews Wal Rhodes

Orchid of the year! A feat we would all like to achieve. But how to do it? Well, one clue is to ask someone who has done it.

I have known Wal Rhodes since the early days of the Berowra Orchid Society and seen the good work he has done for that society and the Orchid Society of NSW Ltd. Wal had often asked me to see his collection so when his *Paphiopedilum Amanda* 'Camira', AM AOC-NSW was awarded AOC Orchid of the Year 1986 it seemed an appropriate time to do so.

Wal lives in a tree lined street at Mt. Colah, an outer northern suburb of Sydney. He grows a few softcane dendrobiums and intergenerics of the odontoglossum alliance — and thousands of paphiopedilums.

Ed: Since 1963 Wal has been on the NSW Judging Panel, with three years as Assistant Registrar, and has been very active on the organising committee of orchid workshops.

*Wal, what led you to specialise in paphs?*

'Well, I started with a few genera in 1953 but later was given a paphiopedilum by a fine grower of them, a Mrs Linda Smith of The Entrance. I remember her winning the class for 'Best six paphiopedilums' at the Orchid Society of NSW Ltd Town Hall Show in 1960. That's when I got hooked.'

*'You certainly had a well laid out set up here Wal.'*

'Yes, I've outgrown two glasshouses, and as you can see I've just built a new one 20 metres by 8 metres.'

*'And you grow nothing but paphs in it?'*

'That's right, and it is adapted for them. The glass has received a thin coat of white plastic paint on the outside, and hailguard over the top supports 40% shade cloth.

*'And what about ventilation?'*

'The gable ridge runs north-south and can be opened to 20cm. The sides below the benches can also be opened, but a shade cloth covering breaks any strong





Seedling paphiopedilums just over a year out of flask. Photo: Ron Kerr

reasonable prices. When this can be done I will start looking for buyers.'

*'Let's discuss breeding. Obviously you are working to a plan.'*

'Yes, that's why I'm hastening slowly. Breeding of paphs in the last ten or fifteen years has resulted in some classic clones, particularly from such parents as *P. Peony*, *P. Winston Churchill*, *P. Small World*, *P. Personality*, *P. Radley* and *P. Sunwillow*.

'The old Radcliffe parent *P. Dramatic* produced my favourite grex the 'Gay-maids'. *P. Gaymaid* is from *Dramatic* x *Chianti*. There are still some of these to flower and no doubt some will gain awards.

'I think *P. P. Orchilla* is another top parent. Don't forget it produced the famous *P. Winchilla* and its deep coloured reds. A pity *P. Orchilla* doesn't carry more seed. I believe stud plants need to be very mature and well cultured to be good producers of seed.

'Each hybridist has his favourite ideas on breeding lines. Mine are based on the famous *P. Pathfinder* clones developed by Stan Condon and Doug Symons. I spend a lot of time tracing breeding lines right through all copies of Sanders. If ever in doubt I phone Stan or call on Doug before making a decision on a cross.'

*'I'm told you have remade some crosses?'*

'Yes, and there's nothing wrong with that if they have been successful. Providing, of course, you can use the original parents. I have been able to do this because of the winding up of the *Pathfinder* collection. One such is the famous *P. Song-Bird* cross registered by Radcliffes in 1973 and remade by *Pathfinder Nursery*. The latter produced many top clones, among them 'Pathfinder' and 'Annangrove'.

'Instead of *Pathfinder's P. Amanda 'Joyance'* I have used *P. Amanda 'Camira'* which I grew from a seedling to become "Orchid of the Year 1986". I believe

winds. If daytime temperature increases the ridge rises to increase airflow.'

*'And temperature control?'*

'In winter I insulate with PVC sheeting stretched under the rafters to seal the house, which has a minimum height of 2.6 metres. Heating is by a Tempo boiler circulating through 50m of copper pipe. I can maintain a minimum of 12°C in winter. The summer maximum is 27°C.

'In winter I bring in my good collection of softcane dendrobiums and hang them from the glasshouse beams. In summer they hang up under 30% shade cloth.'

*'What about repotting?'*

'I endeavour to have all the large plants finished by the end of October. Small plants many be potted twice a year. There is a lot of controversy over potting medium and no doubt there is plenty of latitude.'

*'Since you are obviously getting excellent results may I ask your mix?'*

'Certainly. I start with a blend of fine and medium bark, varying the proportions to suit the size of the plant. As the plant becomes three or four growths, all medium size bark is used. I add 15% polystyrene and 10% charcoal. Another 15% consists of black treefern (*Cyathea australis* or *C. leichhardtiana*). The tree trunk is put through a hammer mill, washed to remove dirt and sieved. More than 15% will make the mix too acid.

'This blend becomes light and spongy, similar to jungle humus. The roots can wander in it and they gain a thickness often as large as a pencil. I find that with too fine a mix roots are thinner. However with *P. spicerianum*, *P. insigne* and their hybrids, roots always tend to remain thin.'

*'Watering is another contentious matter. How do you go about it?'*

'It is only done in the morning about 6 am. This allows them to dry out by nightfall. In winter I still water at that time, as the glasshouse temperature is maintained at 12°C minimum. When watering in winter, steam rises off the hot water pipes creating good humidity.

'On the afternoons of hot summer days, the plants are misted sufficiently to have a film of water over the leaves.

'Incidentally, when hosing I try to get

under the leaves as well as tops. In fact I try different angles each time.'

*'What about water in the axils of the leaves?'*

'I have not found it to cause any trouble as long as the plants are strongly grown and drainage is good. Stan Condon, perhaps our greatest grower of paphs, found the same thing.'

*'And fertilizing?'*

'Once a week, summer and winter. I use a mix of half strength Aquasol and for every ten litres of water, I add a quarter teaspoon of magnesium sulphate and a pinch of chelated iron, plus five drops of Formula 20. Every four weeks I substitute Nitrosol for Aquasol. Also every four weeks I add to the fertilizer mix Alliette fungicide to the maker's specifications. In spring and summer I use a good general fungicide such as Fongarid, prior to periods when humidity is likely to be high.

'Paphs are susceptible to all types of fungi. Some start as dieback at the ends of leaves. Others can commence when a bottom leaf splits to allow a new growth to emerge. One to avoid grows like a fine spider web on your lawn when dew forms and affects both paphs and odontoglossums.

*'Thanks Wal. You've covered growing very well. I hear you are now into hybridising and flasking in a big way?'*

'Yes, but I started by buying flasks and had to learn to deflask with minimum loss. I'm still experimenting with different seedlings mixes containing barks, polystyrene, sands, mosses, etc.

'Correct housing is vital for seedlings because humidity, shade, and temperature must be strictly controlled. At present I have 12,000 seedlings housed at Dural and loss has been held to one half of one per cent over the last two years.

These plants are often monitored hourly, but at least a minimum of twice a day. They are sprayed for fungi and fed on a more regular basis than mature plants.'

*'You have 12,000 seedlings! Any for sale?'*

'Not at this stage. In a couple of years it will be possible to keep up a continuity of established plants in good crosses and at



'Camira' to be a superior flower to 'Joyance'. The other parent of *P. Song-Bird* is *P. Lyric*, and Radcliffes used the clone 'Dansk'. I have coupled *P. Amanda* 'Camira' with *P. Lyric* 'Stanza' and *P. Lyric* 'Grandessa'.

*'That is one very interesting line. What others?'*

'I am endeavouring to produce a large number of green crosses. At shows I have noticed a great interest in greens, also white and bronze flowers. Athol Bell's advice to me years ago was always to endeavour to have one parent with a long stem. I do this. There is nothing worse than an award type flower penalised by a short stem. In award judging ten points are allowed for habit of stem, so I'm trying for every one of those points.

'In the future I have planned to make the *P. Song-Bird* 'Pathfinder' x *P. Amanda* 'Camira' crosses both ways.

'As for colour I think *P. Redstart* has great potential as a parent. *P. Song-Bird* mated with a good colour could be rewarding. A cross I have in pod now has the potential for some outstanding apple greens. This is *P. Country Fair* 'Bambi' x *P. Hazella* 'Beecroft'.

*'And what else do you plan for the future?'*

'I believe there is a gap in the supply of quality paph seedlings, particularly in wide colour range. No one is offering near flowering size plants, and there is little available in 10 cm leaf span plants.

To bridge this gap my friend Gordon Giles and I have imported several hundred flasks of American crosses. Some have been bred for award type plants, others for eye appeal. Often at shows you see people by-pass the champion to look at a colourful primary hybrid or a floriferous potful. We have also skimmed the local market for seedlings from top plants.'

*'All that sounds promising. You must be building up quite an organisation.'*

'Well, I have the knowledge of growing paphs for 33 years, Stan Condon's remarkable memory to rely on for advice on breeding, the knowledge of Doug Symons and the marketing and cultural expertise of Gordon Giles for practical

help. I am very grateful for the help of these fine growers.

'Oh, I must stress the splendid advice given me by the late Athol Bell in our many talks on growing and breeding paphs.'

*'Wal, you've certainly interested me and I'm sure others will be interested to learn of your experiences with paphiopedilums. I would like to take a few photographs if that's OK.'*

'Certainly Ron, and you might like to see my lab too.'

*'Yes, I'd forgotten to ask you about your lab work.'*

'It's only small at this stage and I'm only flasking for my own use. One has to find some time for fishing and coaching the local junior cricket team where my son Kirk plays. He's coming on as an orchid man too and gaining some experience in biology at Macquarie University. As a junior he picked up Champion Australian Native and Champion of the Spring Show at Berowra Not bad.'

*ED: From which you will gather that Wal Rhodes is not only a good paphiopedilum grower, but also a proud dad •*

## NSW HONOURS JUDGES

The OS of NSW has officially created the rank of Emeritus Orchid Judge.

The title honours those who have given distinctive service to judging over many years but are no longer active.

Four Emeritus Judges have been appointed:

Alan Begg, a member of the original panel who played a big part in establishing judging standards.

Frank Slattery, an original judge who was instrumental in establishing the training of new judges. He assisted in starting panels in other States and gave continuing training by mail.

Alan Birdsall, also on the original panel, and very active up to 1986.

Reg Trenerry, a worker in many capacities, and one of the longest serving judges until 1986.

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# SOCIETY NEWS



The Parramatta O.S. Display at O.S.N.S.W. Winter Show.

Photo: A.B. Porter

## OSNSW WINTER SHOW

The week long show in Ashfield Mall was appreciated by thousands of shoppers. Mr W. Hughes of Wollongong benched the Grand Champion *Paphiopedilum* Loganna 'Gala', a large red from the cross *P. Paeony* x *P. W.N. Evans*, registered by Radcliffe in 1964.

Champion Standard Cymbidium was a rich pink seedling from the cross *C. Keera* 'Supreme', owned by J. Dilling. Champion mini went to the floriferous green *C. Mini Mint* 'Margaret' Mr and Mrs Perry. What a good cross Mini Mint has proved!

Barry Long is famous for his specimen plants and his many flowered *Blc.* Sylvia Fry 'Supreme' deserved to be Champion Cattleya.

Champion Exotic Species went to F. Jones' superbly coloured *Rhynchostylis gigantea* 'Plum Pretty'. Champion Any Other Genus was an unnamed seedling

*Wilsonara* (*Onc. tigrinum* x *Oda*. Monarch Mountain) which showed just how interesting is this line of breeding. It was a proud win for junior member J. Trezise.

Native Champion was also an unnamed seedling hybrid (*Den. Sunglow* x *D. Hilda Poxon*) which had creamy yellow flowers with wide segments, firm textured and on upright stems.

The A.O.C. Certificate went to Ron Kerr for his five racemed *Den.* Australian Beauty 'Chittaway', carrying over 200 deep yellow and purple lipped flowers, 75mm wide.

Parramatta O.X. once again shone by winning the large society display class, with Bankstown a close second. Six other societies contributed beautiful displays, and were only narrowly separated by points in the order: Ku-ring-gai, Sutherland, Cumberland, Eastwood, Western Suburbs and Berowra.

# SOCIETY NEWS

In the smaller display class for societies there were five worthy entries. Five Dock came first, followed by SPECIES (NSW), Sydney, Lidcombe Hospital and St George.

Royale Orchids had a colourful commercial display featuring some outstanding miltonias and minicatts. In the individual classes over 100 prizes were distributed to deserving winners.

## MELVILLE DISTRICT OS WINTER SHOW

The Melville District Orchid Society of WA (inc.) held its winter show on July 4 and 5.

Grand Champion was Paph Sheerline 'Rhonda' and Reserve Champion Cym Acadian Sunrise 'Golden Fleece'.

An outstanding feature of the show was the signing up of 30 new members.

## TASSIE GROWERS GET TOGETHER

Ross, hitoric town about midway between Hobart and Launceston has for many years a Mecca towards which members from all Tasmanian orchid societies make an annual pilgrimage.

Ross is around a two hour trip for most participants who arrive on a Sunday in time for morning tea.

This year the discussion opened with a

review of orchid virus and government testing. The latter does not include testing for Necrotic Ringspot Virus which, once introduced, can spread rapidly in a collection. The T.O.S. is to take this up with the Tasmanian Agricultural Department.

Over forty plants had been brought by growers, all of great interest, and Phllis Nicholas gave an interesting commentary on them. After lunch State Registrar John Wardward briefed everyone on the new cymbidium standards.

This annual affair is now a well established part of the Tasmanian orchid scene. A fine forum for discussion on all orchid matters and a pleasant social affair.

## LIFE MEMBERSHIP FOR BILL KEATS

The annual meeting of the Cymbidium Club of Australia awarded life membership to past president Bill Keats.

A member since the foundation of the club Bill has served on the committee, as secretary for three years and a total of four years as president.

Always to the forefront of the activities the club has been involved in, Bill has been more than generous with his time and efforts.

May good health stay with him for many more years.

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# SOCIETY NEWS

## PARRAMATTA HONOURS MR & MRS MARTIN

By unanimous vote Ferg and Nola Martin have been awarded Life Membership of the Parramatta Orchid Society. Both have become renowned for the work they have done for the society over a period of nearly 30 years.

Ferg is famous for his specimen size native orchids. Last year *Den.* Ferg Martin was registered in his honour by the society's president, David Banks. It's a cross between *D. Ellen* and *D. Penny Ann*. In the late 60s Ferg collected his well known *D. kingianum* 'Betty' on his brother's property at Comboyne, and in 1972 gave a piece to the young seven year old David Banks. David used it as a stud and it has proved a very effective producer of dark flowered progeny.

## DEDICATION TO SOCIETY HONOURED

At the March 87 meeting of the Maribyrnong Orchid Society, the long dedication of one of the originators, Mr Neil Boucher, was recognised.

For his outstanding contribution and dedication to the Society, and to orchid growing, Mr Boucher was presented with life membership of the Maribyrnong Orchid Society.

Neil has, for many years, been the driving force behind the Society, in fact, from its beginning, in its complete running and smooth operation.

I may also add, that without Neil's pushing, this Society would probably never have formed. Neil is a quiet worker, preferring to just go ahead and get things done; he never mentions his achievements, just being content to sit back and be proud of the work done by the Society, in the charity work done by the members for the Multiple Sclerosis Society at St Albans, and the good will brought to the community in general.

Neil has served on the Committee of the Society, as vice president for two years, then as president for the past four years. The Society was started in 1981 with less than 20 members, and now has grown to close to 200, largely due to the efforts and driving force, led by Neil and his committee's. He has also done the job of editor of the Society's bulletin which is eagerly read by many.

This year Neil and his wife Jan have become the proud parents of their second child, Luke. With daughter Rachelle, and baby Luke, not to mention work commitments, Neil has been forced to step down as president of the Society, but I feel sure for his part and the Society's sake, there will be more assistance from Neil and other retiring committee members and helpful advice to ensure the success of the further development of Maribyrnong Orchid Society in the future.

Well done Neil!

Roy Lee  
(Retiring Vice President)

## WIDE SCALE ACTION

The ANOS Far North Coast Group recently devoted most of an excellent newsletter to a large scale attack on scale.

Les Higgins described all the nasty kinds which can be introduced by plants from other collections, animals, birds, and also air currents. He suggests that a good control is to ignore them, but select a scale killing chemical that is effective against more common pests and use it regularly. He suggests Malathion Wettable Powder (Not Malathion E.C.). This is also effective against aphids, caterpillar, grasshopper, thrip, white fly, springtail, or earth mite, and prevents scale infestation. For the last two reduce watering the orchid. He also finds that Mesurool 75 used against slug, snail and mealy bug, kills scale crawlers and ants.

Bob Friend recommends strongly against using White Oil. It acts by

# SOCIETY NEWS

smothering the scale but Bob has lost plants from leaf burn by using it. He finds Maldison effective against scale, and it also controls ants and the tiny web-spinning caterpillars. It should be used with a spreader such as Shirwet or Agral. When spraying full protective gear is essential.

Top grower Roy Gifford points out that orchids are not really stoked on white oil. Further, it is an emulsion held in suspension in a carrier liquid, usually water. Sitting on a shelf it will gradually come out of suspension and sit on top of the water. If not emulsified again by prolonged and vigorous shaking it will deliver either water — no problem but ineffective — or pure oil, which is a disaster.

The ANOS Far North Coast Group produces an excellent newsletter and maintains a very active program of lectures, visits and social activities — also shows. They meet on the second Thursday of each month at the Ballina High School, Swift Street entrance, 7.30pm. Visitors are very welcome.

## THE OLD STORY

If you asked me if I had a large orchid collection, I would have answered "No, just a few cymbids.", that is — until last weekend.

The Coast was being battered by gale-force winds, and after the long dry spell, the heavens had opened. Listening to the radio weather alerts, I felt thankful that I wasn't a bushwalker, a sheep, or a sailor. Grandchildren, clutching crumpled paper bags of fire crackers, gazed forlornly out the windows at the huge, wet, unlit bonfire — hopes of lighting it plummeting to zero.

With darkness closing in, I dashed across

to make sure all was "battened down" in the orchid house, and as I opened the door, devastation met me! Pots were upside down, fallen off the benches, scattered in all directions. "That darned puppy", was my first reaction, then, as the full extent of the damage hit me — "the cows must have got in here!". Inside, with the doors closed, the wind and rain were still soaking me through.

I shone the torch upwards and yes, you've guessed it, half the roof had gone. It was suspended in the trees about 50 metres away. The winds were still rolling the pots around, and while Bill climbed on to the part of the roof that was still there to secure it temporarily from lifting, I attempted to shift all the exposed plants to shelter.

Now, you can buy the odd seedling here and there, accept thankfully a backbulb, wheedle a piece of something you really like from a fellow grower, divide a large plant into three (almost as large), and there is always room on your benches to shift everything along a little and fit the extra one in. BUT, if you have ever tried to fit your whole collection into half the space, you will realise just how insidiously it has grown!

In the dark, soaked to the skin and lashed with freezing winds, I felt as if I moved 5,000 plants. I kept muttering (amongst other things), "This ridiculous, nobody should let their collection get to this many!"

Bill replaced the damaged roof next morning. The end panel is now locked down securely with iron instead of being all Tuflite, and fortunately the cost was covered by insurance. Apart from a few broken spikes, the cymbidiums look none the worse, and I have made a resolution to consolidate, but not expand, my collection. However, when the next catalogue arrives, I have a sneaking feeling that I'll still be poring over it, telling myself that I wouldn't really notice "just one more".

**GWEN JOHNSON**  
in Devonport OS Newsletter





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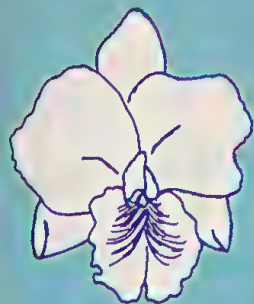
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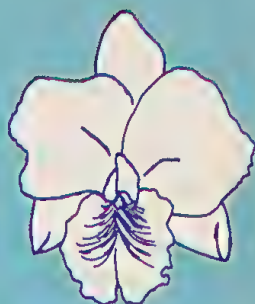
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- MS. 2094. BLC. BLUMEN INSEL 'JACK QUEEN AOKI' AM/AOS orange/bronze
- MS. 2095. SLC. HAZEL BOYD 'SUNSET' AM/AOS compact yellow suffused red
- MS. 2096. LC. CHIOU JYE CHEN 'KITTEN FACE' AM/AOS. Pink & Purple/splashed cream
- MS. 2097. SLC. HAZEL BOYD 'ELIZABETH' AM/HOS Splashed yellow/red lip
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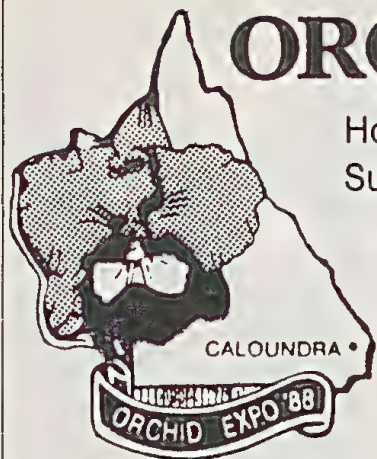
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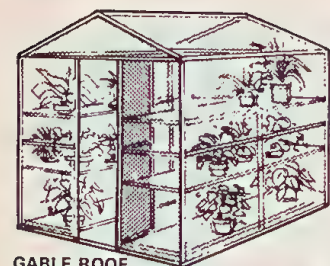
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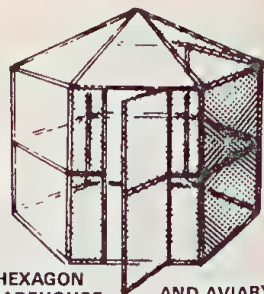


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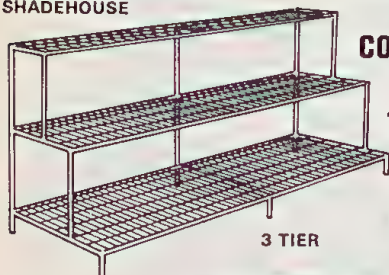
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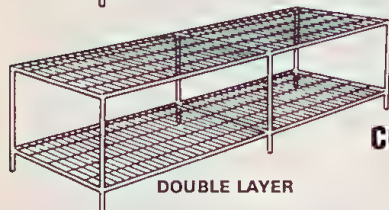
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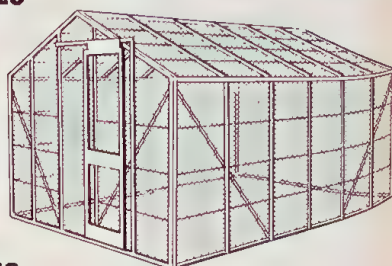
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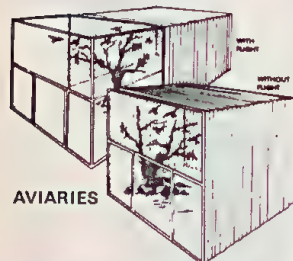
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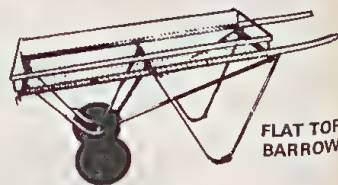
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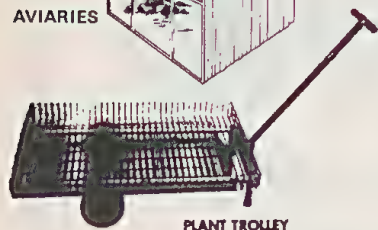
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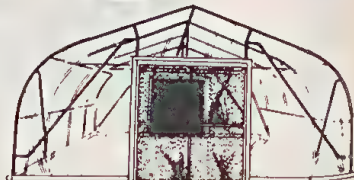
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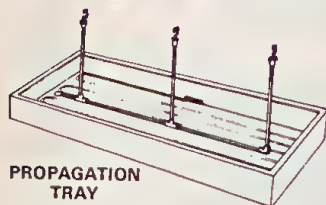
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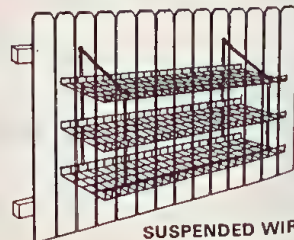
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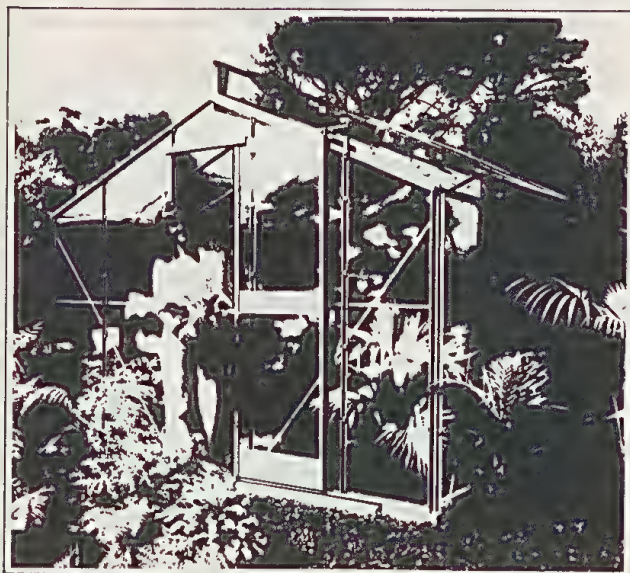
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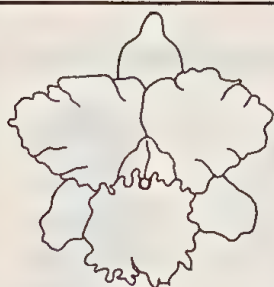
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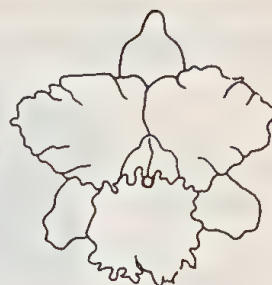
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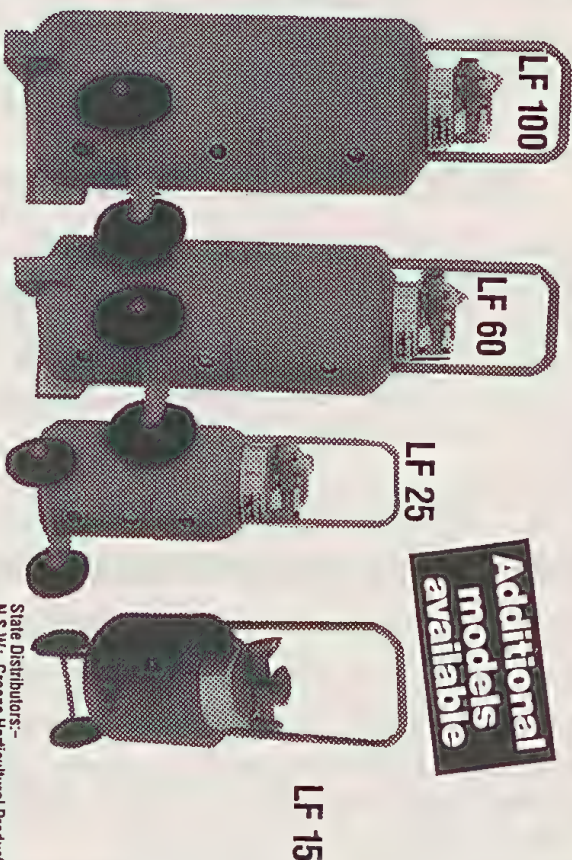
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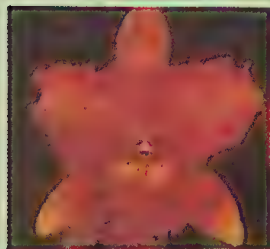
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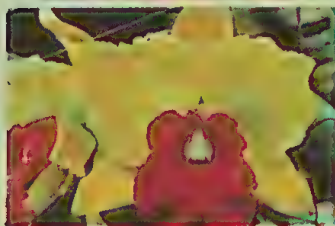
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The Official Publication of the Orchid Society of New South Wales, Queensland Orchid Society, Victorian Orchid Club, Orchid Club of South Australia, Orchid Society of Western Australia, Tasmanian Orchid Society.

**SUBSCRIPTIONS:** All overseas orders must be paid for in US dollars.

In Australia: one year \$A21, two years \$A39.

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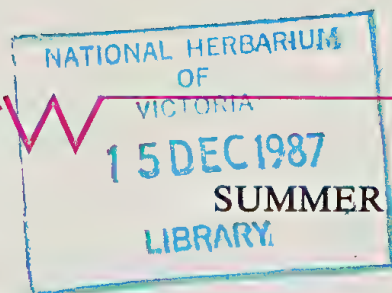
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# Australian Orchid Review



Volume 52 — No. 4

## Contents

### COVER STORY

COVER PHOTOGRAPH — Orchid of the Year 1987

*Cymbidium* Lake Macquarie 'Winsome' (C. Pear Easter x C. Stanley Fouraker) was hybridised by the late Mr R. Van Dyke.

It was first flowered by Mr R. Burgess of Charlestown, N.S.W. and he gave it the varietal name 'Winsome' after his wife.

After the first flowering the plant was mericlone by Mr Geoff Barrie, of Barrita Orchids, Mt. Hutton, N.S.W. Mericlones of this plant were purchased by Tom and Edith Price in 1977 and grown on to flowering size and shown at the 9th A.O.C. in Melbourne in 1984 where it was judged Champion *Cymbidium* and gained the award of H.C.C.

In 1986 it was again transported, this time to Adelaide, for the 10th A.O.C. where it was judged Grand Champion of the Show and its award elevated to A.M.

It has now been awarded Orchid of the Year by the A.O.C. Judging Panel.

Congratulations go to Tom and Edith Price of Newcastle on their fine achievement.

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# TWELVE MONTHS OF ORCHID FLOWERS

E.R. BENNETT



*Cymbidium pumilum*. The species used to reduced both plant size and flower size in miniature cymbidiums. Photo: A.B. Porter

The year 1987 marks a mileston in my orchid collection.

January was very exciting as I watched my *Cymbidium aloifolium* push out its first spike and the buds unfold. It's a pretty miniature carrying about 30 flowers on the spike, each about 30mm across. Each flower segment is strongly marked in red along the centre with creamy edges.

February was even more exciting when one of my clones of *Cymbidium* Peter Pan 'Greensleeves' produced a spike. I have three clones of this plant, each from different sources. Two of them flower twice each year, the other only once. Since they are mericlones I put these variations in flower times down to minor changes caused by this process. The end of February was a time of pleasing anticipation as I saw spikes develop on other plants.

March gave me two spikes on an unnamed clone of *C. Katydid* with 32 and 27 concolour green mini flowers. I knew I was on my way to a good season when two large spikes appeared on an unnamed cross of *Cyperorchis* Kathleen x *Cymbidium pumilum*. This is another mini green on which I have previously had up to 40 flowers to a spike.

In April two plants of *C. Minuet*, for which I have no clonal name, flowered. One had two spikes, the other one. The normal spike for this plant carries 12-15 intermediate flowers about 60mm across in a pretty striped pink, not unlike *C. sinense* in shape and colour although this species is not in its bloodline.

May is the beginning of the normal season, and the first May flowers came from *C.*



Gidget 'Zuma'. I was thrilled by the first flowering of a seedling from *C. Peter Pan* x *C. madidum* with a spike of 24 flowers about 30mm across. It had the appearance of a *C. Sarah Jean* but much better shape and with the red spotted *C. Peter Pan* lip. A very nice flower for this time of the year.

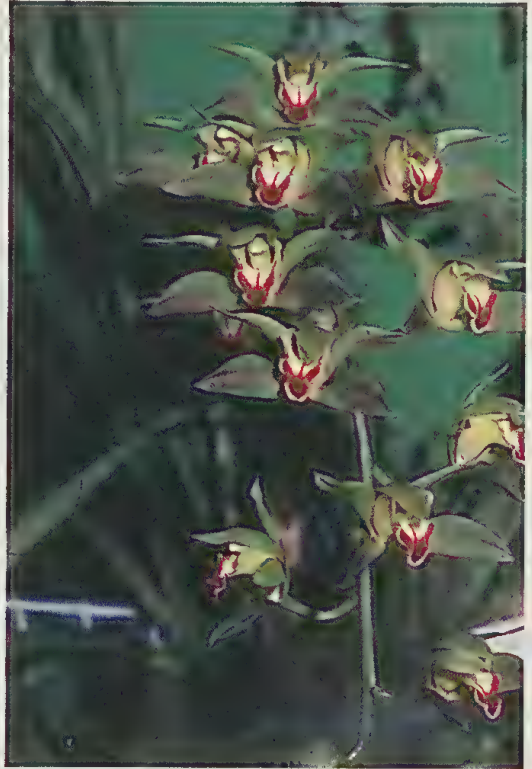
Early June to throughout the main season I have been rewarded with a rich flowering of standard cymbidiums, intermediates and miniatures.

In October came the rewarding clones of *C. Tal Craig* and *C. Mazatlan*, and the species *C. devonianum*.

At the end of October or early in November my clone of *C. Cricket* will flower from its four now emerging spikes. Each will have up to 30 flowers about 25mm across, deepest red, almost black, with the solid dark red devonian lip — completely different to the usual green madidum type *C. Cricket*. About the same time my plant of the cross *C. lowianum* x *C. suave* will flower.

Then to fill out my year in late November through to December my clone of *C. madidum* will flower, which along with the madidum hybrid *C. Nonna "Goldilocks"*, will keep me enthralled until mid December.

Altogether a most satisfying year. Hopefully, with some of the crosses I have made



*Cymbidium Lowianum*. A species in the breeding line of virtually every modern cymbidium. Photo: A.B. Porter

from the earlies and lates there will be even more rewarding years to come ●

P.O. Box 186, Long Jetty, 2261.

## FROM THE PUBLISHER

### AWARDS

Poor response, only 238 sales has caused cancellation of the 1987 Australian Orchid Awards publication. Advance payments have been refunded.

### PUBLICATION

AOR will be published and posted in 1988 on the following dates — Autumn — 29 February; Winter — 30 May; Spring — 29 August; Summer — 28 November. And will appear at selected newsagents one week later.

### SUBSCRIPTIONS

Subscriptions are now due. In spite of rising costs we have held on subscription and advertising rates to help you. To help A.O.R. stay viable we need more subscribers and retail sales.

### FORMAT

Following a reader/society survey we are, in conjunction with the Editorial Committee, updating the format and editorial content for increased readership and advertiser interest.

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 Lc. Elizabeth Off x Blc. Princess Amy, pink.  
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 Blc. Destiny x Helen Brown x Jane Paton 'Rene', green.  
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 white/purple lip. This cross is slightly smaller in size.

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# Twelfth World Orchid Conference

KEVEN McFARLANE

Everyone has been asking me which orchids won the major prizes in Japan?

The Grand Champion was a species from China, *Paphiopedilum micranthum*, owned by Nobuo Kamiyama. It also received a Gold Medal. A delightful bloom and one of nature's wonders.

The Reserve Champion, owned by Yamomoto Orchids, was *Dendrobium* Hawaiian King 'Giant', from a crossing of *D. Hawaiian Spectacular* and *D. formidable*. It is well named as each flower is as large as a small cattleya. Flowers were whitish with pale yellow in the throats. Each flower had a very wide lip, no doubt inherited from forebears in the *Nigohirsutae* section.

Eleven gold medals were awarded, the winners being: *Paphiopedilum micranthum* 'Kamiumama'; *P. Maudiae* 'Ebony Queen'. *P. (Amduram x Amanda)* 'Imparece'; *Phalaenopsis* Orchid World 'Bonnie Vasquez'; *Calanthe (discolor x izu-insularis)* 'Yoshiaki'; *Calanthe* Takare 'Kurosankoh'; *Cymbidium* Highland Lassie 'Jersey'; *Dendrobium* Fantasia 'Crown'; *Laelia pumila* var. *oculata* 'Imperatriz'; *Sophranitis coccinea* Halley's Comet'. *Neofinetia falcata* 'Seiounishiki'.

## Of Local Interest

Just to the left of the main entrance, nestled in between the Bangakra species nursery from Thailand and a private Japanese display, was the only private display from Australia. Kev and daughter, Karen, set up the display with help from Karen's husband Terry.

We had left Cairns with 28 spikes of quality blooms, mostly hardcane dendrobiums and vandas plus three spikes of vandaenopsis.

Quite a few, including the vandaeopsis, never made it. They showed their opposition to interrupted travel and changing conditions.

Most of the dendrobiums never looked like

regaining their composure and it was no surprise when they didn't salute the judges.

However not all was lost. The vandas overcame all difficulties. *Ascocenda* Aribarg (Medasand x Thananchai) embellished the display with a Blue Ribbon in the class for Best Yellow, Orange and Sunset Colours, along with *Vanda* Gordon Dillon 'Cairns' which won Best Strapleaf Vanda of the Show and a Silver Medal.

*Vanda* Gordon Dillon 'Cairns' is very large and has excellent shape. It had 14 blooms of strong violet colouring. Certainly a worthy champion.

With all the frustrations of organising, transport delays, and climatic shocks, one would have to consider visiting a psychiatrist except that obviously people all around were going through the same turmoil. We orchid folk are certainly demons for punishment.

However there is no doubt that as time passes we will remember only the good things — and there were many of them: beautiful orchids from all over the world, the banquet, the delightful country, and, best of all, the wonderful people.

How pleasant it is to meet old friends from previous conferences and to make new friends. So I guess we'll repeat the performance over and over, next time at the 11th Australian Orchid Conference in Sydney next September, and then the New Zealand World Orchid Conference in 1990. All in the name of love for orchids ●

The most striking thing about the distribution of orchids is that the different continents have distinctive orchid floras. In other words a large part of orchid evolution has occurred since the continents have become well separated.

Dressler in *The Orchids*

# LETTERS TO THE EDITOR

Dear Sir,

"The safe use of pesticides" — Article in *A.O.R.* Spring 1987 Issue, Vol. 53(3) by A. J. Merriman.

I wish to express extreme concern at inaccuracies about pesticides in the above article. These inaccuracies may cause people, inexperienced in the use of pesticides, to endanger their orchid collections. An awareness of the function of each chemical product listed on page 46 is essential to prevent their misuse.

The products are listed (page 46) under the heading of "Pharmaceutical Name". The heading should be "Active Constituent" (or "ingredient" at worst). To use the term "pharmaceutical" in this instance is very dangerous as pharmaceuticals include medicines that are taken orally.

It is also unfortunate the the pesticides in the table are not identified by their function (e.g. fungicides, insecticides, miticides, herbicides), this would reduce the dangers of misuse. Herbicides in particular, present a danger in the culture of ornamentals especially in inexperienced hands. The herbicides, in order of appearance on Mr Merriman's list are: Paraquat, Diquat, Amitrole, Diuron and Simazine.

The fungicide Dicloran (ALLISAN) is listed as Picloran which would easily be mistaken for "Picloram", a very efficient herbicide indeed.

The small table on LD 50s is meaningless without attendant explanation and no reference to the listed chemicals.

It would be useful to your readers if Mr Merriman could provide an amended list in the next issue of *A.O.R.*, e.g.:

ACTIVE CONSTITUENT	COMMONLY USED TRADE NAME	TYPE OF PRODUCT (FUNCTION)
Demeton-S-methyl	Metasystox	Insecticide
Dicloran	Allisan	Fungicide
Diquat		Herbicide
Propargite	Omite	Miticide

OR

The products could be separated into function groups.

Please note that DDT has been banned for all uses throughout Australia as from August 1, 1987 and should be removed from the list.

The Chemical Standards Branch of the Department of Agriculture and Rural Affairs, Victoria, publishes up-to-date information on the uses of pesticides for pest, disease and weed control on all classes of ornamentals, each 6 months. The data is available on microfiche. The information covers all States of Australia, on 5 microfiches at \$8 each.

Yours faithfully,  
*Peter-North Coombes*  
 Acting Agricultural Chemicals Officer,  
 Chemical Standards Branch,  
 Dept. of Agriculture and Rural Affairs  
 East Melbourne.



# LETTERS TO THE EDITOR

## SWAP SHOP AT 13th W.O.C.

Dear Sir,

Interest is growing in collecting orchid badges. I confess to collecting them myself.

The 13th W.O.C. Auckland in 1990 will have a swappers' corner, where interested people can get together, perhaps over a cuppa, and swap away. Badges, spoons, stamps, etc.

Those who wish to participate in swappers' corner can write in advance, listing relevant details which can be posted on a board at the start of the conference to help people to contact one another.

We are hoping to encourage every registrant to bring a good supply of their club badges, etc, to swap or sell. I have acquired a beautiful set of orchid cuff links from one NSW club in Adelaide last year. Do other clubs have cuff links? Swapping is tremendous fun and also a great way to make new friends. I'm hoping you'll find a corner in your A.O.R. to help spread the word.

Thank You

Orchidaceously yours

*Heather Crofskey*

13 W.O.C. Publicity Committee

Dear Sir,

Where have all the awarded champion cymbidiums gone?

Since 1964 there have been 151 Australian Orchid Council Awards, 102 have received Highly Commended Certificates, 16 Awards of Merit, 32 Awards of Distinction, and only one a First Class Certificate. From these only two clones, plus a clone awarded only in New South Wales, have dominated our shows in Australia.

The non-AOC clone is *C. Highland Mist 'Barita'*, AM/NSW (1971). One of the AOC

awarded plants is sister clone *C. Highland Mist 'Lalchere'*, AM/AOC-NSW (1974) which was AOC Orchid of the Year 1975.

The third dominating clone is *C. Narela 'Jennifer Gail'*, AM/AOC-NSW (1974).

*C. Narela 'Jennifer Gail'* and its mericlones has won the greatest number of Grand Championships in all States than any other orchid.

Our Australian nurseries are recognised world wide for the quality of the export flowers they produce, but their show type flowers seem to be in short supply.

In the last two years two new outstanding show bench standard cymbidiums have arrived on the show bench. The first of these is *C. Jubilation 'Geronimo'*, FCC/AOC-VIC the only cymbidium ever to receive a First Class Certificate from the AOC, and Orchid of the Year 1985.

The second clone is *C. Lake Macquarie 'Winsome'*, AM/AOC, Grand Champion at the 1986 Austraqlian Orchid Conference in Adelaide, and awarded there.

This plant has an interesting history. It is from *C. Pearl Easter* x *C. Stanley Fouraker*, a cross made by Mr John Gulbis of Cecil Park Orchids. The seedling was flowered by Mr Ron Burgess of Newcastle, who then passed on a division to Mr Geoff Barrie of Barrita Orchids. In 1977 Geoff Barrie presented it at the Newcastle Orchid Society Spring Show where it became Grand Champion. Earlier he had the plant mericlone and was selling the young plants in 1976.

Mr Tom Price and Mrs Edith Price purchased a number of mericlones from Barrita Orchids and one of these turned out to be this very superior form. It has taken ten years to attain this perfection, but a rewarding culmination for those fine growers Tom and Edith Price.

*Colin Blackstock*  
6 Mindarie Street,  
Lane Cove 2066.

# LETTERS TO THE EDITOR

## WHY COLLECT IN THE WILD?

Dear Sir,

One of the largest actual controversies among both scientific and amateur naturalists is the question of whether or not to collect wild plants and animals or not . . . and how?

Responding to the numerous negative postures (Ruschi 1987 . . .) my group believes rational collections to be an important parallel method of preservation of the genetic diversity of natural species. When done in the *rational* manner.

Among orchids numerous species and forms live and reproduce well in "in vitro" conditions half the globe away from where their natural habitat has already been destroyed. Enthusiasts all over the world have been coming up with many new methods of cultivating and multiplying orchids and other plants and animals in conditions which in some cases showed up even better than the original ones. Though the expansion of orchid lovers . . . has had a primarily commercial cause, one may note that this brings a larger "space" for plants to survive in as a positive consequence.

Thanks to this one can still see flowering specimens of the Brazilian cattleyas, laelias, or the Asian paphiopedilums in culture, while many have had their native vegetations decimated. As an example one may cite a small sphagnum moss community outside Rakovník in central Czechoslovakia where a habitat of *Dactylorhiza majalis* and *D. fuchsii* was recorded since the 16th century was totally destroyed in the early '60s and covered with dump and wastes. In 1983 the habitat has been totally re-established from collections of two local enthusiasts (LANKA 1987).

We are trying to expand a non-commercial network of preservers consisted of such enthusiasts. It is essential that the information about the existing plants in cultivation shall be maintained.

The conscientious collector should always bear in mind . . . "Do I have room for it? can I create similar conditions?"

As to herbarium collections, the recollection of already well known plants is absurd in papers studying local floras. With some experience the botanist should be able to collect only dubious material, leaving a good part of his species list of the given area only mentioned but uncollected. It is shocking to read botanical papers like the Flora of the Sugarloaf in Rio De Janeiro, where (Carauta et al, 1984) mention the almost extinct *Laelia Tobata* "having collected abundant material and deposited it in numerous herbariums".

Yours

Ruy Alves

Marquesa dos Santos 22/1004

Laranjeiras R.J. 22240

Brazil

Dear Sir,

I am writing this letter to see if any of your readers would have a cutting or a spare plant of Vanda. Josephine van Brero x Vanda Satta.

I had a plant of this particular crossing but it was stolen and I have tried to procure another plant in North Queensland without any success so I am appealing to your readers if they have a plant, I would be willing to pay all expenses. This particular crossing had a great sentimental value to me, that is why I am writing this letter.

Yours faithfully

A. J. Weeks

P.O. Box 243,

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# Electronic Control Glass-house Environment

Gordon C. Morrison

Too many years ago now, when I converted to growing orchids from other plants, the use of some form of environmental automation seemed desirable. I knew little about orchids and not much about environmental control but it seemed that some heating would be needed in the colder months, watering at selected times, moderate humidity and plenty of air circulation.

This last item presented little trouble in my primitive fibre-glass house, it had enough gaps in it to ensure air circulation. A heating cable was installed on the fibro bench top, running around the pots, and controlled by a thermostat with about a 4°C differential which was rather poor. Humidity was not controlled but remained reasonable by the use of a layer of red gravel on the bench top, this was kept moist by overhead misting nozzles used for automatic watering. The water sensor was a swinging arm synthetic leaf of my own design and construction. This used a mercury switch to control a solenoid water valve from a washing machine. This supplied water to the overhead nozzles.

When the synthetic leaf held enough water, the swinging arm turned off the power to the solenoid. When the leaf dried out the arm swung up again to energise the solenoid. I doubt now whether there was any great amount of correlation between the synthetic leaf dryness and orchid plant dryness. The whole system worked from 240 volt mains and was rather primitive but then the year was about 1970.

The next logical step was towards greater sophistication. The watering system was modified to use transistor control from 12 volts instead of 240 volts. A rather simple system incorporating a light sensitive cell of cadmium sulphide which reverse biased the transistor during dark periods so preventing the water from coming on, no matter whatever the water sensor said about the

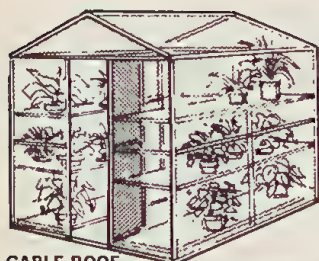
dryness. This latter transducer was a calcium sulphate block with two electrodes embedded in it, cast in a match box tray which was then peeled off after the calcium sulphate had hardened. The device was suspended on fishing line in the glass house, the position being readily adjusted so that it became wet quickly or slowly or immediately from the overhead misting nozzles. By juggling the position of the sensor it was possible to correlate the 'water-on' time with wetness of the orchids. Being a solid block this sensor could have been buried in a pot of compost, perhaps so providing better control if one was growing orchids mainly in pots. I do not recall ever having tried this, probably because the aerial suspension system worked well enough. This was still primitive but an improvement and the system was described in AOR sometime early in the 1970s.

By this time the orchid collection had grown, as was inevitable, and a brick and glass greenhouse was in the offering. This called for more sophistication so I designed and built a new control unit measuring 53cm long and 25cm high containing three units, the water control, power control and thermostats, even though I had obtained some higher quality ones, the differential of 2°C was still outside the limits I was aiming for and I felt a silicon diode as the temperature sensor could do better.

The devices used to control the environment were: cool inlet fan; hot air outlet fan; fan heater of 3kW; overhead misting nozzles (which also did the watering); an external roof misting system.

Five control knobs on the front panel allowed these devices to be energised at any desired temperature between 12°C and 30°C. A single silicon diode hung in the glasshouse, controlled the output of the electronic thermometer, in a bridge circuit, and this was used for all five devices.

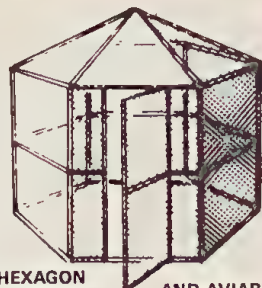


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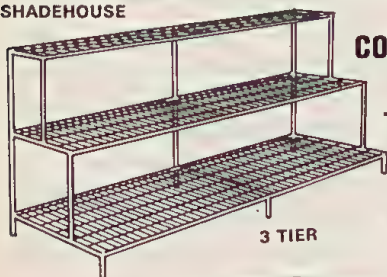
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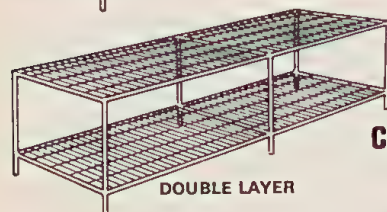
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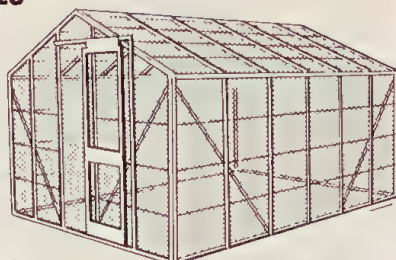
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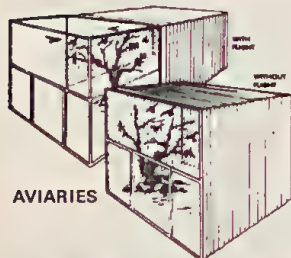
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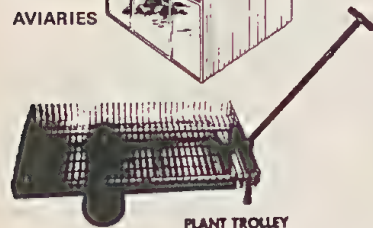
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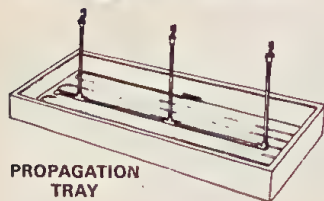
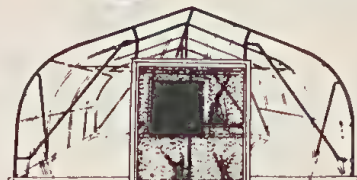
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The watering system was separate and consisted of three sensors, for outside air temperature to prevent the plants being doused with cold water on a cold morning, a light sensor, a phototransistor with lens, which could be oriented so that its output falls to a low value after 1400 hours and is zero in late afternoon and night. The water sensor was as described previously. Three front panel knobs allowed me to set in various percentages of the output of these three sensors and I usually used 80 per cent of the water sensor as this seemed most important, 40 per cent of the outside air temperature and 40 per cent of the light output. These three output voltages were integrated and applied to a trigger circuit which in turn, if it received enough stimulus, closed a relay to activate the watering solenoid.

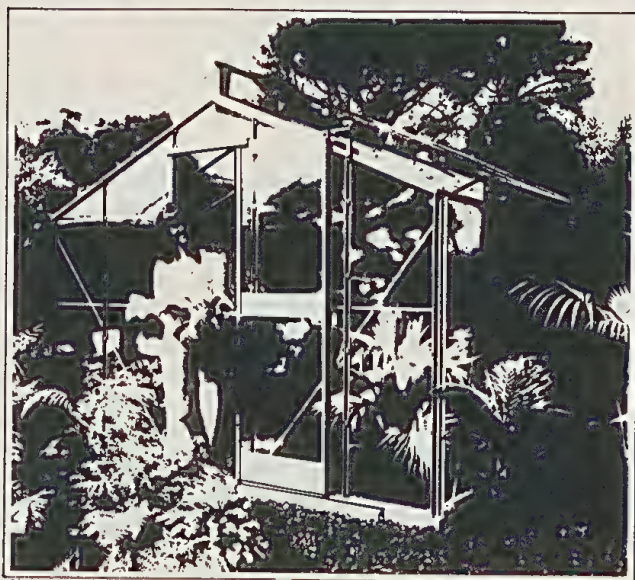
The external roof misting was a failure so was abandoned in future models but otherwise the system worked reasonably well. It was designed and built in 1975 and described by me at the 9th World Orchid Conference in Bangkok, January 1978, and

a description and detail appears in the Proceedings of the 9th WOC (1980) so no further description is needed here.

As well as controlling the glass-house environment the above equipment allowed further experiments and tests to be made as it did reveal some shortcomings in environmental control. This inevitably led to a new model produced in 1980. This was housed in a unit of panel size 40cm x 40cm and 20cm deep. The devices used to control the environment were as previously except for the external roof watering.

This was replaced by a system essentially being a combined under-bench misting system and evaporative cooler so giving five devices controlled via five front panel knobs from a single temperature sensor in the glass-house about 2m above the ground. By improving the voltage comparator circuits the temperature differential was now down to 0.1°C and by restricting the range of the heater temperature control from 13°C to 20°C, rather than the full range of the unit which was 10°C to 30°C, a very fine control of minimum temperature could be obtained.

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The temperature controlling circuitry for this model has already been described (Morrison 1980) so needs no further description here except for two points. The silicon diode temperature sensor needs to be gently aspirated either by its own fan or by a glass-house fan and secondly the under-bench misters need to have a duty cycle timer fitted to give 30 seconds (approximately) on and 1½ minutes off. This was done by an oscillating electronic timer which turned off the relevant comparator circuit after 30 seconds of 'on'.

The enormous advantage of electronic control systems is that modifications may be made without the need to replace the equipment. For example, the temperature sensing circuits of the above system were changed to allow front panel read-out of temperature using a liquid crystal display.

The glass-house temperature at the sensor site can now be read to 0.1°C and the temperature change can be noted in seconds rather than having to wait for the response lag of a mercury thermometer. As a general rule I set the controls for the cool air inlet fan to come on at 24°C, the under-bench mister/cooler at 27°C, the hot air outlet fan at 29°C and the overhead misting system at 30°C. About 5 seconds mist spray from this latter is sufficient to cool the house to below 30°C which is the maximum growing temperature allowed to occur. This demonstrates the desirability of low differential response; if the misting differential was a degree or so the glass-house is likely to be flooded on a very hot day before the temperature is low enough to turn off the misters.

On a normal summer's day, say with an outside air temperature of 25-30°C I find the under-bench mister/cooler, set at 27°C on its 1:4 duty cycle, will hold the temperature down to 27-28°C and the overhead misting is not used for cooling. The evaporation of water is a powerful cooling medium as it absorbs from the air and fittings 2540 joules per gram of water turned into water vapour.

The associated watering system in this unit was much improved over the previous one by:

1. using a 'water-hold' circuit whereby the duration of watering could be controlled

from the front panel for a period of 15 seconds to 3 minutes.

2. using a humidistat set at 80 per cent RH to 27°C to prevent watering if the water vapour present exceeded this figure.
3. using an electronic clock to count the days (24 hour periods) since the last watering, up to a maximum of 4 days. My day commenced at 1000 hours in summer and 1100 hours in winter changed by resetting the alarm on the clock.
4. retaining the integrated output of the outside air temperature, light and glass-house dryness sensor.
5. Using a 'day-plus' circuit (up to 3 days plus) so that if watering did not occur on the day planned the day-plus circuit is activated causing watering on 1, 2 or 3 days (as selected) after watering should have occurred.
6. as soon as watering is finished a fan comes on for 30 minutes giving the house forced ventilation.
7. using a repeat watering system enabling 0 to 4 repeats to be made (as selected)
8. using a monitor system which could be switched on or off and which checked that both the glass-house temperature and dryness remained below pre-set levels. If both exceeded these values then watering would occur. This was mainly used during any prolonged absence on my part as a safeguard. I do not know that it ever saved the day but when home I turned it off and did the monitoring myself. This device will be omitted from future models although it is very cheap to fit it does produce unnecessary complication.

Item 7 above is interesting. During my investigation of thick orchid roots of epiphytes (unpublished) I found that the velamen soon became saturated with water (it was only four cells thick) and excess water simply fell to the ground as run off. If one waited a while and misted again, more water was taken up by the velamen, the original having passed via the exodermis into the cortex of the root and, of course, then into the vascular system via the endodermis. This repeated misting could be continued at intervals, the root being able to absorb more water than with one continuous

short application. This had some significance when using overhead misting to water epiphytes. One tended to water for say, 3 minutes which produced puddles on the ground with limited absorption by the root and secondly prolonged misting washes nutrients out of the leaves.

The repeat watering system allowed one to water for say, 30 seconds and then stop for a period before watering again for 30 seconds and so on up to 4 repeats. The period between watering which I used was 30 minutes simply because I had the 30 minute fan circuit available. How close this came to the ideal time I do not know at present. So by selecting 3 repeats and setting the 'waterhold' control to one minute the first watering to occur lasted one minute followed by 30 minutes of fan, then the first repeat for one minute followed by 30 minutes of fan and so on giving a total watering time of 4 minutes over one hour 34 minute period. This system seems worth retaining in future models.

Output from items 2, 3 and 4 were fed into a triple input gate circuit. Now the advantage of a triple gate is that all inputs are isolated effectively from one another and the gate remains shut until all three inputs have the desired signal form. Just one or two inputs being satisfactory will leave the gate shut. When the gate opens it activates the watering circuit. This means that watering will not occur until the clock has counted up the selected day interval between watering and the humidity is below the pre-set level and the integrated output from item 4 is of sufficiently high level to trigger its comparator. This triggering level can be pre-set or panel controlled. I feel that pre-set is good enough.

Item 5 is a valuable asset to the system. Suppose the 'day-plus' sector is set at two and the day selector is set at three days (this counts from the day of the last watering). If continuous and cloudy and cold weather prevents item 4 from authorising watering to occur in 3 days time (or even 4 days time) the day-plus circuit then commences counting days after that selected (ie 3) and counts up to 2 days. It will then trigger the watering circuit (and its repeats if set in) and watering

will occur at 1100 hours. The day count is then set back to zero time and commences counting again. If watering should occur on a fine day after 3 days, ie, on the 4th day, then the day-plus circuit is cancelled and water count set back to zero again.

At this point in time (1985) I sold my house and along with it the glasshouse and control system so a new model is on the drawing board once again. A lot can be learnt from experience so I believe this new model will incorporate the best features of the old plus a few new ideas hopefully useful and for the better.

I venture to suggest that anyone who has used an automated glasshouse would not return to manual operation again, the advantages are too great ●

#### References:

Morrison (1980) An electronic thermostat for the glasshouse Topic 6 in 'Growing Orchids in Australia & New Zealand'. Kangaroo Press.

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# Eleventh Australian Orchid Conference: 1988

## Full Dress Rehearsal of Conference Show

The Orchid Society of New South Wales and its Affiliated Societies, who will be hosting the 11th Australian Orchid Conference from September 18th to 25th, 1988, recently staged a "dress rehearsal" of the conference show in Sydney's beautiful Royal Botanic Gardens.

The 1987 Spring Orchid Festival was well named. The large striped marquees in a setting of trees and lawns, views of Sydney Harbour in the distance, bands playing, family groups picnicing and the Gardens at their springtime best all contributed to the festival atmosphere of the show.

Inside our marquee there were orchids by the thousand, in the variety which only New South Wales can produce. The displays were superb, the themes were very well treated and the visitors were delighted. The orchids relished the natural conditions so much that the great majority of the blooms remained in perfect condition for the full eight days of the show.

Maybe the term "full dress rehearsal" is journalistic licence, for large and varied as the show was, it was only a pup compared with what is in store for 1988. The conference show is attracting very wide support. Country and interstate societies are lining up with displays and there will be substantial commercial participation.

Australian Native Orchids in great variety will be a major feature of the show and, indeed, of the conference itself. Hybrids of Australian Native Orchids have been improving at a spectacular rate in recent years and what better opportunity could be found to display these than the 11th Australian Orchid Conference show, otherwise Australia's Bicentennial Orchid Festival.

After all, the bicentennial celebrations are all about celebrating 200 years of progress.

Of course the conference is far more than an orchid show, however good that may be.

The conference will afford the ideal opportunity to meet fellow orchid enthusiasts — from overseas, interstate and country areas as well as those from the next suburb. The conference will afford a unique opportunity to improve your knowledge and experience of orchids; a distinguished panel of speakers will help in this respect. The conference will be a time for socialising, both on the tours and at the evening functions.

This conference will be something really special as it is the Australian Orchid Community's contribution to Australia's Bicentennial Celebrations. Sydney town, where it all began right about where the show will be staged, and will be all dressed up and celebrating the whole year long.

This is your big opportunity to really enjoy your hobby, to have the holiday you will remember. It has all been arranged for you. All you have to do is register.

The conference secretary is Alan Alvis, 5 Knocklayde Street Ashfield, 2131, Australia, telephone (02) 797 7329. Alan will be pleased to send further information. Incidentally, he now has supplies of the official conference badge at \$5.00 each. Don't buy one, each registrant gets one free; they are only being sold for the convenience of collectors.

**REMEMBER:** This is the big one. This is the 11th Australian Orchid Conference, endorsed by The Australian Orchid Council. This is Australia's Bicentennial Orchid Festival ●





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# BOOK REVIEW

## Modern Orchid Growing

Another fine publication from South Australia. This one *Modern Orchid Growing for pleasure and profit*, comes from the Orchid Club of South Australia. It is made up of the lectures from the 10th Australian Orchid Conference held in Adelaide in September 1986 welded into a whole under the direction of Wayne K. Harris.

The lecturers at the 10th Australian Orchid Conference would probably be the best panel assembled for any Australian Conference. The cymbidium section of six lectures opens the book. These reveal the high degree of organisation in the nurseries of South Africa, Holland, California and Japan.

Section two has up to the minute data on natives, particularly the terrestrials which they grow so well in South Australia.

Section three covers species and conservation, and Section four, miscellaneous orchids. Five deals with judging systems of the major growing countries.

Typographically the book is laid out for easy reading and reference. It has charts, line drawings, black and white pictures, and a profusion of colour reproductions. It is value for money.

Recommended retail price is \$19.50 per copy. Special discounts apply for quantities. Orders and enquiries re discounts should be directed to: The Orchid Club of South Australia, Box 730, G.P.O. Adelaide, S.A. 5001 ●

## A.O.C. makes fine start in publishing

The Australian Orchid Council has published the first volume of what is to be a series of cultural books tied exclusively to Australian needs and conditions.

This first of what is sure to be many books is titled *Australian Orchid Growing Vol. 1 — Cymbidiums*. Its dominating feature is a picture in colour of every Australian Orchid Council cymbidium award since the start of A.O.C. Awards in 1964. These make the book a priceless record in which one can appraise the development of cymbidiums.

A number of the old awards still win on the showbench today. Others, from their photos, look as though they could — but where are they now?

Articles by the 10 authors cover all aspects of cymbidium growing backed by decades of experience under local conditions. All the essentials are there, from flower structure to culture, breeding, judging, and nomenclature.

The editorial committee, comprising Don Gallagher, John Harris, Margaret Hewitt, and Colin Jennings, have done a masterly job.

No experienced grower, or particularly the grower who has just bought his first cymbidium, can do without this book.

The book is A4 size and has 52 pages and a card cover. Paper and print cover are excellent.

Every nursery should stock it. Societies too, for sale to members and at shows. To enquire, re bulk orders, contact: The Honorary Secretary, Australian Orchid Council, 36 East Avenue, Black Forest, S.A. 5035 ●



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# SHOW ROUNDUP

## BRIGHT SHOW AT TOS

Mr and Mrs Streatfield cracked a fine double at the Tasmanian Orchid Society Spring Show by benching both the Grand and Reserve Champions. The Grand Champion was superbly flowered *Cymbidium* Clarisse Carlton 'Pink Delight', and the Reserve *Miltonia* Volunteer Park.

Champion Miniature went to Mr and Mrs Cullen's *Cymbidium* Showgirl 'Cooksbridge'. Champion Native was *Dendrobium delicatum* (syn, *specio-kingianum*) owned by Mr and Mrs Smith. Mr A. Kendrick showed the Champion Novice, *Paphiopedilum* Beaute 'The Grange'.

Mr and Mrs Nicholas presented their usual fine display to win the Championship, which was also acclaimed Most Pre-Eminent Entry and winner of the AOC Plaque. Mr M. Mitchell won a string of prizes with his *Dendrobium* Bardo Rose.

## MANLY-WARINGAH SPRING SHOW

Centred on Sydney's northern beaches this society always has a nice show. This year the display lacked a few large natives, but displays by novices and juniors were up.

Mr and Mrs T. Bird's *Blc.* Drumbeat 'Triumph' was a stately Champion. Champion Specimen was a huge plant of *Cymbidium* Bill Smoothery owned by Mr W. Baker. Mr and Mrs R. Petith had winning plants in five classes.

## DEVONPORT OS SHOW

This society is full of enthusiastic toilers so organisation for the Spring Show went ultra smoothly, producing a result which reports say was breathtaking. Mr Jan Oosting captured a magnificent treble by winning Grand Champion with his beautiful plant of *Cymbidium* Levis Duke 'Bella Vista'. Also

the prize for a square metre display, and Most Pre-Eminent Exhibit.

Novice Mrs Lexie Tueon floated on cloud 9 on learning that her *Cymbidium* Susan Hughes "R.D. Hughes" was the Reserve Champion.

Mr and Mrs J. and R. Cannon won a fine double with their natives; Best species with a well grown *Dendrobium kingianum*, and Best Hybrid with *D.* Bardo Rose.

## MANDURAH ORCHID CLUB

Their Spring Show was the first one for this new West Australian club. Their choice of the Mandurah Aquatic and Recreational Centre as the venture proved an excellent one as many people were attached to the show.

Judges H. Lodge and J. Fleming picked a nicely grown and flowered *Paphiopedilum* Amanda Hill as Champion. Mr and Mrs H. and R. Teide were the proud owners. Reserve Champion was a fine *Cymbidium* Narela 'Jennifer Gail', owned by Mr D. Cole and this was his very first competitive entry. He also won Best Colour *Cymbidium* with a cross of *C.* Balkis x *C.* Amero 'Velvet Wine'. Best Miniature was *C.* Sarah Jean 'Green Ice' owned by Mr W. Clarke. Best Cattleya: *Lc.* Drumbeat 'Triumph' shown by Mr K. Gorey, and Best Native Mr J. Anderson's *Dendrobium speciosum*. A novice class was won by Joan Graham with another *D. speciosum*.

President Kevin Barry presented the prizes and thanked supporters and donors of prizes.

## MELVILLE O.S. OF W.A.

The popularity for the Melville shows has proven by the fact that at society membership increased by 30 new members during the currency of their Winter Show in July.

There was a total of 309 entries in 76 classes with 26 genera represented. The

Floral Art section attracted 25 entries.

Grand Champion was *Paphiopedilum* Sheerline 'Ronda', shown by J. and D. Fleming. Reserve was a cymbidium, *C. Arcadian Sunrise* 'Golden Fleece' owned by Mr and Mrs L. Gale, who also brought off a fantastic treble by winning the first prizes for standard, intermediate and miniature cymbidiums.

The show attended by Mrs Reid, the Governor's lady, and her lady in waiting, several members of parliament, and many overseas visitors.

## COMBINED NEWCASTLE SHOW

The Winter Show of the Combined Newcastle societies was held in a shopping mall. Grand Champion was *Cattleya* Sylvia Fry 'Supreme' owned by David Bird. Mr and Mrs L. Pascoe won Best Intermediate Cymbium with *C. Nancy Maxwell* 'Shirley'. Mr and Mrs T. Price had the best cymbidium *C. Tongariro* 'Ruby Lips'. Morisset OS won Best Display.

## VOC SPRING SHOW

The Victorian Orchid Club staged its Annual Spring Show at St Johns Church Hall-Toorak in late September.

The schedule covered 76 individual classes, 5 special trophies and 5 types of displays. In a big field like this the Champion Orchid of the Show had to be outstanding and indeed it was; our own Jubilation 'Geronimo' FCC/AOC/VOC hybridised and presented by Mr R. Hodgins. The Champion Cymbidium was also won by Geronimo and the Reserve Champion went to Panamar Red 'Fury' also shown by Mr R. Hodgins.

The Pre-Eminent entry of the Show went to J. and M. Douglas for *Phalaenopsis* 'Misty Green'.

The partnership of L. Mercer and J. Borschmann were again very successful in the Cattleya department.

The Affiliated Society display was won by Melbourne Eastern Orchid Society with the Species Society second.

The quality of the exhibits were again of a very high standard.

*Ila Hutchins*

## Grafton's Silver Trophy



Grafton Orchid Society members are proud of their beautiful Silver Trophy. It is a perpetual one and awarded at each Spring Show for the Best exhibit by a member.

The trophy was crafted by Alan Englert, a young orchid grower and jeweller, in honour of the society's Silver Jubilee in 1986. In that inaugural year it was won by husband and wife team, N. and T. Eldridge with their magnificently flowered and Show Champion clone of *Dendrobium* Bardo Rose.

This year they were able to repeat the achievement, an indication of careful culture on their part. Congratulations Mr and Mrs Eldridge.

Grafton growers are a jolly crowd and their meetings are well worth a call if you happen to be there on the third Monday of a month (except September and January). Venue is the Senior Citizens' Centre in Kemp Street ●





# A MAN AND HIS ORCHID

by a friend

A fine winter morning, some years ago I was mixing a brew of compost. The day was clear, blue sky, no wind, the ideal day to go bush, but alas work has to go on. To my surprise I heard a noise so I turned around, and standing there was an old bird (man) holding a book. After the customary greetings I continued mixing while he related his tale of woe. These ranged from trips in boats all around the world to putting orchid seed down, people pinching his orchids to someone trying to do him wrong. But he was cheerful, and happy to be talking about his orchids.

That was my first meeting with this distinguished gentleman. As time went on I saw more of him, sometimes for an hour or two, other times for a whole day. Sometimes I would not see him for several months, and then all of a sudden he would appear as though he had only been talking to me a week ago. As time went by he would talk of the big Cymbidium names of the past, Rosanna "Pinkie", Alexanderi

"Westonbirt", and many others. Also names in the orchid world, names that I had only read about, Dr Vote, Mr Sheed, Percy Gilbert and many more.

When he got sick of me listening to him he would go down to the packing shed to amuse our women flower packers. After a while he grew on them also. He even had our Italian lady packer in hysterics with his small knowledge of the Italian language. Yes, he grew on everyone.

One day he told me he had a champion. To me I could not believe it, but I soon learned that he had won Reserve Champion Cymbidium some years before at the Sydney Town Hall. That spring he bought a flower around, it was of very good shape and definitely had the breeding of a Champion in it. That year he wanted me to take it to Melbourne for him to put it in the 2nd A.O.C. The flowers went but they were not flowered to perfection.

The following month he was around again. All I heard from then on was "it will win

next time". He then gave me his treasured plant to repot for him and to give it my undivided attention. I repotted it into a very special brew of selected ingredients and secretive brews of special undisclosed nutrients. The plant grew well. All I heard from that day on was "how is my plant going"? At times I could have hit him on the head, but to him his orchid was all he had.

At last spike initiation time was on us, feed had to be changed, watering habits changed and a more airy position found. The spikes arrived; one, two, three, four; fat and thick. He was excited, and so was I but I would not admit it. I saw him more often now. He staked them, talked to them as though they were his babies. All he now spoke of was his orchid. Nothing else mattered except his "Orchid". Winter came, the nights were cold, but his orchid was resting in 12°C of delightful warmth. It was a good winter. The days were warm, the humidity was low, and the nights were moderate. yes, the weather was kind to us this year.

As spring drew near the spikes bolted ahead. Now was the time that everything counted. The light had to be just right, water, temperature etc. A special feed of nutriment was required to give the flowers that little bit extra. Yes, it was going to be this year.

The time had now come to say good-bye to our friend, the orchid. It had to go home to wait for the big show. The buds were thick and fat. The spikes like flag poles, it was good. One could see why it had to get an H.C.C. The timing was just right. The special van was arranged to take it to Burwood. It was going to get the treatment. Only the best would do. The flowers were fresh and glistening, no black pollen caps, no spotting, it was going to be its show.

The day dawned fine and hot, too hot. The orchid had to spend the day in its box. Every hour on the hour its devoted owner went up to it to give it some fresh air, and to admire his friend. Yes, it was his only friend.

By four o'clock it was brought in to the grand arena, but alas the heat of the day had taken its toll. The pollen caps had started to darken, but it still looked a Champion.

Every day of the show one could see this fine gentleman standing beside his orchid;

showing the world his beauty. All he wanted to do was share its beauty with everyone. It sure looked good. Four fat spikes with over 70 flowers on them. To the public it was their champion. The lights were good and it stood on the table proud to use the varietal name "DELMAC". Its owner sure was a proud man. Even though the judges gave the champion prize to the wrong plant he was still the proudest man at that show. I was sorry it did not get a prize. This was the first time that I had really hoped that it would win. It would have been nice to see an old man's dream come true. A week after the show he was back again. Sure enough he was as happy as ever. His only comment was that "the judges made a bad mistake, they gave the wrong plant first prize, but I will get it next year". He talked of his orchid for some time and I could see a glint in his eye, so I knew the old fox was up to something. Sure enough, just as he was leaving he said, "By the way, how about repotting "THE ORCHID" into some new brew ready for next year's show?"

At the moment it is living in luxury, living the life of a champion. Next year it should have eight spikes, and if it should turn out this way, it will, indeed, be a picture to behold. "Yes", he said in passing, "It would be lovely, indeed, if every orchid grower in the world could have a piece of my orchid, and every year they could all compete against one another for the grand champion trophy".

Yes, it would be lovely indeed . . . But these are the dreams of an old man.

Dreams or not, wouldn't it be a wonderful world if all of us could get as much out of orchid growing as our "old man" can get with his orchid?

This story may sound like a fairy tale, but, believe me, it is true. It is a devotion of a *Man and His Orchid* ●

## POSTSCRIPT:

### A MAN AND HIS ORCHID

Cymbidium Mem. Robert Casamajor (Cym. Balkis 'Silver Orb' x Apollo 'Exbury') was first hybridized by Stewarts of the USA in approximately 1954. It was then registered in 1960. The cross was then



remade in Australia, but using Balkis 'Luath' instead of 'Silver Orb'.

During the '60s seedlings of Cym. Mem. Robert Casamajor were available from many nurseries including Mr Alf Perry's Delmonaco Orchid Nursery at Kogarah. Mr Perry gave our orchid friend a few seedlings was his plant — Robert Casamajor.

The story goes that he would spend many hours working around the nursery for no payment except for the joy of being around orchids.

Cymbidium Mem. Robert Casamajor 'Del Mac' was shown at the New South Wales Orchid Societies Orchid Festival in September 1970. At this show it received the Reserve Champion cymbidium and also gained a H.C.C. award.

I have not seen this gentleman for some-time now. He may still be around or he could be up there looking down on his 'Plant'. One thing is for sure, Mem. Robert Casamajor 'Del Mac' is still in my care. Every year it grows and flowers, and may be, one day it will receive the Grand Champion Award ●

## FAREWELL AND THANK YOU RON KERR

For the past 24 years Ron Kerr has been the Honorary Editor of A.O.R. This issue, Summer 1987, will be the last under Ron's editorship.

The publisher would like to extend thanks to Ron for all his help and knowledge over the past 24 years. At short notice Ron would often re-organise his many commitments so that he could check proofs of the magazine before it went to press. We wish Ron a very happy and well earned retirement. He'll without doubt always be involved with something to do with ... Orchids!

## FOR BADGE COLLECTORS ONLY

The emblem of the Orchid Society of New South Wales is a flower of *Sarcochilus Hartmanii*. This, superimposed upon a map of Australia, forms the very effective emblem for the Eleventh Australian Orchid Conference.

The official badge for the 11th Australian Orchid Conference features this emblem together with wording appropriate to the significance as Australia's Bicentennial Orchid Festival. Enamelled in three colours, these handsome badges will become collector's items for those interested in either orchid or bicentennial memorabilia.

Badges are now available from the conference secretary, Alan Alvis, 5 Knocklayde Street, Ashfield, 2131 at \$A5.00 each plus postage. Registrants for the conference will, of course, receive a badge free ●

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*Slc. Hazel Boyd 'Picotee' Champion Cattleya O.S. of N.S.W. Spring Show. Owned by  
Mr A. P. Duffy. Photo: A.B. Porter*

# THE 1987 SPRING ORCHID FESTIVAL

*A trip down memory lane*

FRED JONES

The Orchid Society of New South Wales Limited presented the 1987 Spring Orchid Festival in conjunction with the Royal Botanical Gardens Promotion of "Spring in the Gardens", the Festival being staged in a large marquee on the parade ground adjacent to Government House.

This brought back many pleasant memories to many enthusiasts who participated in the 6th World Orchid Conference Show held in the Domain in 1969 and also staged in a huge circus tent.

Despite three days of excessive record breaking temperatures (for this time of the year), the flowers, with the exception of many natives, stood up very well, and were a credit to everyone concerned, when viewed by the writer on the fourth day of

the Show. Seems the moisture in the grass and ground together with good ventilation provided ideal conditions to sustain the flowers.

A very noticeable aspect of the Show was the small number of cymbidiums on display, particularly the standards, although it was late in the season. The dates of the Show being set by the Garden Authorities really did not suit everybody. Parramatta and District Orchid Society were without a full muster of workers due to the school holidays and Five Dock RSL Orchid Society suffered a blanket clash of dates with their own Show, both Societies not being able to participate as they would have liked to.

One must comment on the quantity of

cattleyas and allied genera on show. The magnificent *Slc.* Hazel Boyd clones are now reaching maturity and were to the fore, whilst the writer could only be dazzled by the proverbial armfuls of spikes of *Lc.* Rojo and *Lc.* Coronet x *Lc.* Rojo crosses stood out.

Here was colour, colour and more colour, selling the displays in particular and orchids in general to the thousands of Sydney-siders who inspected and enjoyed the FLoral Festival. All in all a very successful run up to the 11th Australian Orchid Conference and the Bi-Centennial Orchid Show, which will be staged next year, again in the Domain, but in a much larger marquee.

The Grand Champion of the Show was *Paphiopedilum* Thunder Bay x Winston Churchill 'Susan', presented in fine form by South Coast grower Mr W. Hughes. A large rounded shapely flower, the dorsal being white overlaid with green, and brown spots, the broad petals and the pouch brownish. An outstanding flower.

*Cymbidium* Narela 'Jennifer Gail', also owned by Mr W. Hughes, took out the Reserve Champion of the Show. A huge

plant carried a massive erect spike of large shapely flowers, petals and sepals a medium pink shade, the lip edged with darker pink.

Champion Standard *Cymbidium* was also *Cymbidium* Narela 'Jennifer Gail' owned by Mr Hughes. Not often do we see the same grower 'Trifecta' the top three prizes in the Schedule. Congratulations!

*Cymbidium* Orkney 'Pink Heather' shown by Mr H. Jensen in the Bankstown display was declared Champion Miniature or Intermediate. A well grown and freely flowered plant carried four erect spikes and many showy red pink, red lipped flowers.

A very interesting hybrid *Sarconopsis* Lavinia staged by Mr G. Errington, caught the eye, with two semi arching spikes. Flower count was low, but made up by the pristine whiteness of shapely blooms. Champion Australian Native Hybrid or Species.

Champion Cattleya was a fine flowering of *Slc.* Hazel Boyd 'Picotee' shown by Mr A. P. Duffy. An eye catching flower, which exhibited the many qualities of this hybrid. Yellow orange petals and sepals,

*Arpophyllum spicatum*, CC/NSW This would have to be the most magnificent clone of the species around. It earned a Cultural Certificate for Mr and Mrs Frank Slattery. Photo: A.B. Porter





overlaid with reddish flares, the lip reddish. Also known by the Number 91 should you have this clone.

Apart from Grand Champion of the Show, *Paphiopedilum* Thunder Bay x Winston Churchill 'Susan' also won Champion *Paphiopedilum* for Mr W. Hughes.

A fine, large and shapely *Phalaenopsis* Gladys Read 'Snow Queen' x Winter Maiden 'Dick Das' was awarded Champion *Phalaenopsis* of the Show. A nice arching raceme of shapely white flowers, owned by Mr R. Montgomery.

Champion Exotic Species was a fine large form of *Paphiopedilum sukhukulii* exhibited by Mr L. and Mrs M. Sasso. A small plant which carried a magnificent flower in the typical form and colour of this species.

A very showy and interesting hybrid, *Odontoglossum* Stampaland x *Odontocidium* Tiger Butter, shown by David and Stephen Lee, caught the eye and won Champion *Oncidium* Alliance, an arching spike carried seven brownish flowers overlaid with yellow markings and patterning. A very desirable intergeneric Hybrid.

A grand flowering of *Miltonia* Hamburg 'Connells Point' grown and exhibited by Mr H. E. Sheaves was a worthy winner of Champion 'Any Other Genus' Orchid. A true eye catcher with 13 large bold shapely flowers, the petals and sepals and lip a reddish plum shade, with white and yellow markings in the mask.

Novice or Junior Champion Orchid was presented by Mr J. Bairstow, and was *Paphiopedilum* Hellas x Amanda, which also won Class 20.D, Any Other Colour. A large shapely rounded flower which carried the brownish overtones of *P. Hellas*, the dorsal edged with white.

The Bankstown Orchid Society ran out a clear winner in the Display by an Affiliated Society Class, based around the theme of "Repotting Time". This was perhaps the finest display presented by this Society. The quality, quantity, colour and variety, this display had it all, and was a magnificent spectacle. The only criticism was that the ticketing was not suitable and though should be given to improving this important aspect of the Display.

The North Shore Orchid Society, as usual, set up a very attractive and pleasing display. An open type display with a green path leading to a girl on a swing beneath a dividing pergola. This display showed the imagination for theme in North Shore, as the display was aptly titled "Swing into Spring" and beautifully followed the overall theme of "Spring in the Gardens". Again quality, variety and colour, but the front of the display seemed very short of "small" Orchids. Again ticketing was poor and needs some thought also. Top marks for imagination and effect, and clearly won Second Prize.

Eastwood and District Orchid Circle bounced back from "nowhere" at previous outings and "pipped" Sutherland for third placing by one tenth of a point.

Here we saw another open type display, well arranged with quality, variety and colour beautifully finished with bush moss, the effect was great, far superior than masses of bark or wood chips. Why the need for two Society name plates, when one would do?

An idea to stage something "different" cost Sutherland Orchid Society dearly, as the pipe shade house dominated the display and spoiled their display line. Also many quality and colourful varieties were not visible to the viewer. Quality, colour and variety were excellent, but the loss of points from the basic error were irretrievable.

Ku-ring-gai Orchid Society, Cumberland Orchid Circle, Western Suburbs Orchid Society and a small display of "left overs" by Bankstown completed the placings in this section of the schedule. All were the result of enthusiastic workers and support by their respective members and each and every one is to be congratulated for their efforts.

The smaller Affiliated Display Class was won by Manly Warringah Orchid Society with a beautifully designed display arranged about a Japanese Temple Garden. A great range of variety, colour and quality caught the judges' eye. The rocks surrounding the temple should have been painted a more subdued shade of brown or alternatively stippled with green to soften the harsh brown colour, as the brown dominated the centre of the display.



*Paphiopedilum* Thunder Bay x *P.* Winston Churchill 'Susan'. Grand Champion, O.S. of N.S.W. Spring Show. Owned by Mr W. Hughes. Photo: A.B. Porter

Orchids S.P.E.C.I.E.S. (NSW) took second place with a pleasing display but were not able to "hold" the Winner's despite a lovely arrangement and top class ticketing. Lack of colour was a problem also. Nevertheless this display had plenty of interesting species for the enthusiast.

St George Orchid Society ran third with a small display of good orchids, but overall did not have any answer to the quality and arrangement of the other two entries.

The Display of Australian Native Orchids and Hybrids Class was won by Panania-East Hills RSL Orchid Society with a well arranged low level display of variety and colour of species and hybrids.

A display of Orchids saw the Chalmers Family win with a "Walk over".

However the display contained many attractive, colourful interesting plants. A novel approach in the display was the theme of "A Picnic in the Gardens" complete with a picnic hamper over flowing with flowers, and edible goodies, whilst a bottle of "tonic" added the right touch.

The Table Top Display was won by Bob Fry with a fine array of Orchids in many varieties and colours. Perhaps a little

"packed", but the arrangement and finish was well carried out.

This Show resume would be incomplete without an acknowledgement of the Show Judging carried out by Registrar Graeme Banks and his Judging Panels, who fronted up at 7 am on the Sunday morning to allow the Show to be opened to the public by lunch time. A final remark — Well done, one and all! ●

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"China is a country with a magnificent ancient civilisation in which the cultivation and utilisation of orchids have a long history. The available data, historical records, medicinal uses and cultivation as ornamentals, indicate that their appreciation started in China much earlier than in any other country."

Chen and Tang in *Orchid Biology II*.  
Ed. J. Arditti.

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"Gardeners," said Barbara Ward at the White House Conference on Natural Beauty in 1965, "made extraordinary good citizens."

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Phalaenopsis at New Fu-Sing Orchids.

# Orchid Growing In Taiwan

R.W. (Bob) Nicolle

If you read the book review of *Phalaenopsis Kingdom from Formosa* in the autumn '87 *Australian Orchid Review* or read the advertisement from ABC Orchid Group on page 87 in the same issue, you may be wondering what is happening in the orchid world in Taiwan.

After the 12th World Orchid Conference in Japan, Gerald McCraith, the chairman of the Australian Orchid Foundation, Bob Hodgins from Hodgins Orchids, my wife Maureen and I were invited to join a tour of orchid nurseries belonging to Asia Agri Business Corporation in Taiwan.

Asia Agri Business Corp. or ABC as they call themselves seem to be a management organisation who supply knowledge and marketing expertise to a group of orchid growers in a similar way to a co-op in Australia.

ABC produce a catalogue called "Orchid Shock". It is aptly named. The orchid industry in Taiwan is new and growing more rapidly than the industry anywhere else. It is

a part of the fastest growing economy in the world. Like the economy in Taiwan, it still has a long way to go, but the enthusiasm and drive is there. The energy behind ABC is the general manager, George Chou, who orchestrated our tour.

After a night of thunder, lightning and heavy rain that broke a 6 month long drought in Taipei, we were met at 6.30 a.m. by George and the manager of Orchid Culture at ABC.

We left our hotel in driving rain and chaotic traffic that, even under these conditions, consisted mainly of motor bikes and scooters, carrying up to 5 people per bike, buzzing in all directions like blowflies. Maureen, Gerald and I travelled with George in his car and Bob travelled with the grower in a taxi. Half an hour later at 7 a.m. we met again in the foyer of another hotel where we joined a group of 20 New Zealanders for an orchid shock.

We left Taipei at 7.30 a.m. in a chartered bus and drove south along the west coast of



Taiwan about 150 kilometres to Talin. In the heavy rain the bus leaked a little water. George must have noticed because it was not long before we changed into a more luxurious bus with no leaks. The nursery at Talin specialised in *Phalaenopsis* and also had *Cattleyas* and *Cymbidiums*. A huge white *Phalaenopsis* from this nursery, Winter Karla (Mt. Karla x Winter Maiden), was a champion at the World Orchid Conference Show. This was our first glimpse of orchid growing in Taiwan and it was quite an eye opener. Most of us had never seen so many *Phalaenopsis*, particularly in small sizes. There were thousands of plants in community flats. There were also plenty of *Cattleyas*. The potting mix was *Osmunda* fibre and gravel. Although Taiwan is a tropical area, the growers still find it necessary to heat their greenhouses. This nursery had a large boiler and hot-water pipes beneath the benches. They also had lights above the benches to extend the daylight hours.

Our next stop was Chin-Lih Orchids at Mingsung managed by Mr Lee. Their office and laboratory looked more like a palace

than an orchid nursery. The building was four storeys high and painted white. Large concrete arches formed the windows on the laboratory and the balconies on each floor were ornately decorated with white cast lacework. Even the gates were huge, ornate, white pedestals topped with decorative yellow lighting.

On the flat roof of this "palace" was a large shadehouse. The grounds were landscaped with huge decorative rocks and waterfalls. Ponds contained giant goldfish and colourful water lillies. Throughout the grounds were poles carrying more decorative yellow lights. Inside the "palace" the main office was approximately 20 metres x 20 metres with leather lounges for the visitors, terrazzo on the floor and mirrors and inlaid timber panels on the ceiling. The walls were lined with orchid trophies. Chin-Lih is the biggest *Cattleya* grower in Taiwan and some magnificent examples are pictured in their colour catalogue.

They also grow *Dendrobiums*, *Oncidiums*, *Phalaenopsis*, *Paphiopedilums*, they are also the biggest *Cymbidium* growers in Taiwan. Like everyone else in Taiwan, they

The office complex at Chin Lih.







The fertile flats flanking the mountainous backbone of Taiwan.

are still expanding. New greenhouses are being built and they have a huge stockpile of *Cymbidiums* in flask.

The *Phalaenopsis* and *Cymbidiums* at Chin-Lih were grown in a separate nursery just 5 minutes from the "palace". As we walked to the second nursery, we passed the ever present paddy fields of rice, a peanut plantation and plantation of bamboo that was grown for its shoots. The second nursery was huge and was divided equally between the *Phalaenopsis* and *Cymbidiums*. The *Cymbidiums* were small, mostly in community pots and 4" pots, there must have been millions of small *Cymbidium* plants. The large plants were some 15km away in the mountains that form the backbone of the island of Taiwan. The mountains extend from the north to the south and during our stay remained shrouded in mist.

About 12.30 p.m. our bus stopped in a small village at a restaurant that was by far the biggest building in town. The large two storey red building reminded me of a Chinese temple and the food, that was served in an endless procession, was similar to the Chinese food that we have in Australia. During the banquet, which surprisingly

didn't include rice or Chinese tea, we were supplied with gallons of orange juice.

The next nursery we visited was in Hsinying City and specialised in *Phalaenopsis*. Just at the entry to the nursery was a golf driving range. The operators spoke no English, but Gerald was able to convince them that I was Greg Norman. He also gained a little free golf tuition. The nursery was called NFS — New Fu-Sing Orchids — and may be the reason for NFS being incorporated in the name of some of the orchids in Taiwan and may not mean Not For Sale. NFS had a magnificent display of pink *Phalaenopsis* in flower and we wondered why the blooms or plants had not been sold. There were hundreds of thousands of small *Phalaenopsis* plants growing on in two huge tunnel houses and beyond there were frames, concrete pads and sparkling steel benches for more expansion. NFS had their laboratory operating in full swing and we were invited to watch and photograph the girls working.

From Hsinying we returned to Chaiyi City to a nursery being set up by ABC. In the 12 months that they have had the 2 acre property they have set up a laboratory and large greenhouse that already contained



Small Cymbidiums at Chin Lih.



The main office and trophy case at Chin Lih.

about 25,000 flasks of *Phalaenopsis*. The concrete foundations had been laid for a huge new greenhouse to grow on the *Phalaenopsis* plants.

The plan is to produce about 3 million flowering *Phalaenopsis* for the local market. All of the nurseries that we visited in Taiwan were different, but they had two things in common. They were surrounded by paddy fields of rice and contained hundreds of thousands of *Phalaenopsis*.

By the time we left ABC Orchid Group, it was nearly 6 p.m. and we travelled straight to a specialty Taiwanese seafood restaurant. Here we were treated to every Taiwanese delicacy imaginable and some I am sure you could never imagine. Some of us made the mistake of viewing the food before it was cooked. We saw everything from raw duck tongues to dried fish roe. The first course

was a huge bowl of clear fish soup which to everyone's horror contained large, ugly, black fish which defied their looks and tasted delicious. The dishes that followed contained all types of fish food including squid, octopus, prawns and fish all prepared in a way that we decided could only be enjoyed by people with an educated palate.

After the dinner we left our tour bus to make the three hour return trip to Taipei on public transport. We waited at the bus depot for about an hour in trepidation. However, our fears were ill founded because the bus that took us back to Taipei was luxurious, complete with onboard toilet and two television sets that enabled us to sample some Taiwanese "culture". We were all back in our hotels by midnight after having experienced an orchid shock from Formosa.



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*Dendrobium Impact*. This clone came from a cross made by Kevin McFarlane of Cairns. The many fine clones from the cross marked a significant milestone in breeding. Photo: A.B. Porter

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## PHALAENANTHE DENDROBIUMS and their culture

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Ray Nicholls

Great achievements have been made with the hybridising of phalaenanthe dendrobium orchids.

Commencing with the species as base stock we have seen tremendous improvement in the size of the flowers, numbers of flowers, their presentation particularly on arching racemes showing the individual blooms to the best advantage.

A lot of emphasis has been placed on the shape of individual blooms, being a full round shape, nice and flat with a broad labellum and heavy texture.

This full shape on arching sprays is very striking and pleasing to the eye. Then we have seen the variety of colours from the clearest white to the very darkest red with all the bi-colours. Possibly the most striking has been the development of the stripe into the phalaenanthe and today there are some excellent forms of full shape, carrying vivid strips.

What we are waiting for is the full shape yellow. To date, this has not been

achieved so there is still a challenge for the keen hybridist to make further developments within this genus.

Not only are we seeing advances within our hybrids, the species are being continually selected and upgraded which are in turn used for crossing within the hybrids, one outstanding species that comes to mind is *Den palaenopsis* "Clifton" only recently awarded A.M. this indicates the amount of selection within the species of the section phalaenanthe.

This quality in species can only give strength to some of our superb hybrids.

Some excellent hybrids such as Hickham Deb, Doreen, have since been surpassed by some of their crossings producing names like James Dick, unnamed Hybrid Doreen Lim Hepa which are just some of many outstanding phalaenanthe hybrids.

Phalaenanthe Dendrobiums are a true epiphytic orchid they grow naturally in the sub-tropical and tropical areas of Queens-



land and with this in mind, are grown very successfully under bushhouse conditions on the Queensland coastal areas.

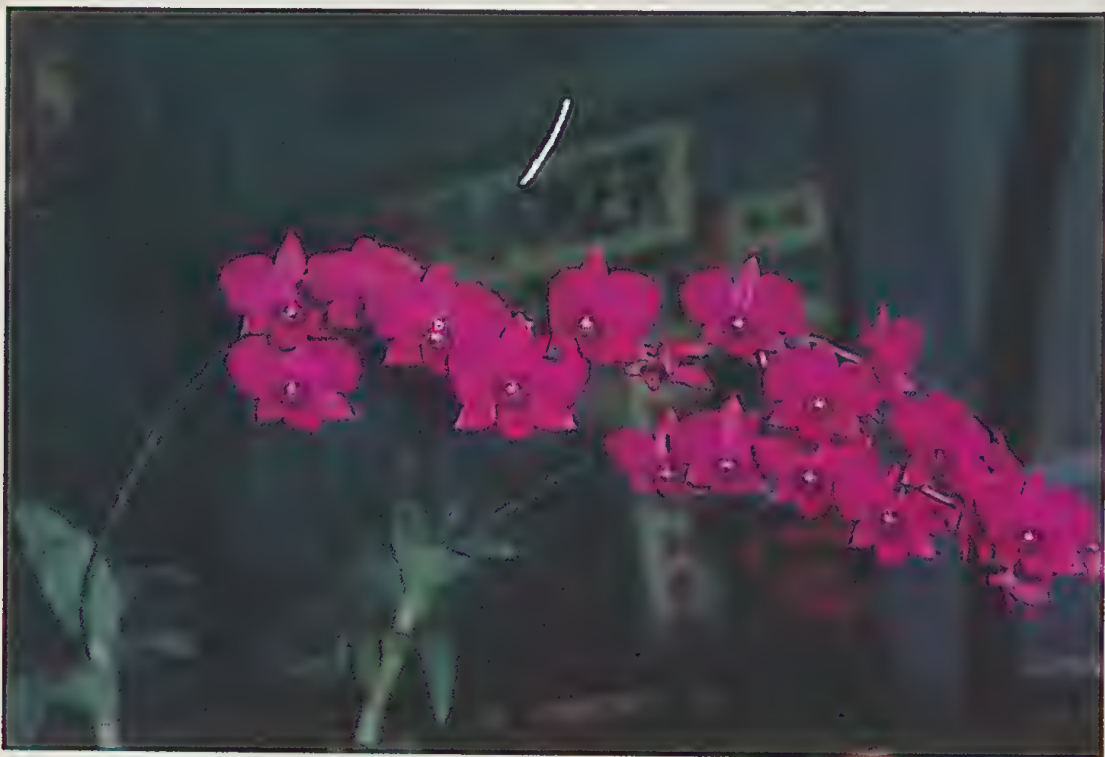
A bushhouse with a north-east aspect and not less than 70% shade and around 80% is ideal. A construction on an "A" frame model to a height of 3 metres is most successful. Protection from the hot western sun and westerly wind is desirable.

One of the most crucial steps in growing *Phalaenanthus Dendrobiums* is not to over

change the potting media is like changing the sheets (a nice fresh bed to lie in).

Provided you have an open, well-drained potting media, which may vary from one grower to another also in different areas, in most cases it is the individual's choice as to what is most successful.

To choose the correct growing media, you must understand the growing habits of the plants. That is until the plant reaches



*Dendrobium American Beauty*. A fine example of hardcane showing the increased floriferousness in modern hybrids. Photo: A.B. Porter

pot, keep the plants cut back to 4 or 5 back leads, this is very important as *phalaenanthus dendrobiums* must be kept growing. Back leads that are not functioning are a harbour for fungal and bacterial diseases.

Most growers don't have any problems in growing and flowering their plants twice and from then on have difficulties maintaining the growth and in many cases, life.

Regularly repot, cut the old canes away and keep the base of your plant clean and healthy.

In other words, it is necessary to repot after every 2 years growth in adult plants, seedling to flowering, perform better if repotted during their growing period. To

maturity (flowering) it is growing all the time and later flowering, the plant then has a rest period and will stay dormant until new growth appears in the spring. With this in mind, during this resting period, the plant lives on its own stored resources and needs to be kept relatively dry, therefore, the need for an open media. Seedlings and young growing plants will perform better with a smaller grade of media with the inclusion of a percentage of peat and perlite which improves the moisture holding ability of the media and promotes growth.

As stated in the growing habit, mature plants have a growing period and a dormant period. For a plant to grow well, it must be

fed and during the growing period they are heavy feeders and respond well to fertilizer with the best results achieved when fed a little and often, say half recommended strength applied twice a week in the form of a mist is ideal. During the growing period (spring/summer) a complete high nitrogenous fertiliser is required. In late summer, a high phosphorus potash fertiliser is needed to boost flowering. I suggest a fertilizer which has a N.P.K. ratio of 11-13-16. After flowering, a complete cessation of fertilizer and a greatly reduced watering program is required during the dormant period of adult plants.

The plants require good air movement and can be raised to flowering stage on a bench and after this stage it is recommended that they be hung for two reasons: they are subject to better air movement and you are able to support the plant and flower spike by tying to your hanging arrangements, at maturity well-grown plants are always top heavy.

Like all plants they are subject to pests which attack the plants at various stages including dormant periods, mites and red spiders are of major concern and do cause a lot of damage as the plant has very little resistance, they are also the natural target for the Dendrobium beetle, caterpillars, grasshoppers, snails, white scale, mealy bugs.

If that is not enough they are also prone to fungal and bacterial damage during the growing and dormant periods which is one of the major causes of losses among mature plants.

It is essential to control fungal and mite attacks particularly during the dormant period of mature plants.

The management and care prior to flowering is of utmost importance if a successful flowering is to be achieved.

Watering is very important and as such it is advisable to grow Phalaenanthé Dendrobiums in a separate area of the bushhouse so that controlled watering can be achieved. Adult plants after flowering do require a resting period and during this period they require less frequent watering, they must dry out. While young plants are growing, regular watering and fertilising is required.

To understand the growing habits as well

as the control of common pests, the Phalaenanthé Dendrobium can be a most rewarding orchid to grow with an abundance of autumn flowers. Flowering can be expected within 18 months of deflasking if grown satisfactorily ●

## COMING EVENTS

*Bi-Centenary Orchid Festival.* This is the official A.O.C. 11th Australian Orchid Conference. The big Show of '88. September 17th to 25th. Details: Mr A. Alvis, 5 Knocklayde St, Ashfield, NSW, Australia 2131. Not to be missed.

*13th World Orchid Conference.* Auckland, New Zealand, 1990. So close you'll have to go.

*Sub-Tropical Orchid Council Expo.* Early September 1988.

*British Orchid Council Congress.* To be held at Cheltenham, England 26th-27th March 1988. Details from Congress Registrar, Mr F.W. Culver, 5 Mill Close, Wotton-under-Edge, Glos. GL12 7LP, England.

*Tropical Queensland Orchid Conference.* Darwin OS is host society over Queens birthday holiday weekend, June 88. Darwin OS secretary: Mr D. Viney P.O. Box 38493, Winnellie N.T. 5789.

*Second Australian Trade Horticultural Exhibition.* Sydney Wool Centre, Yennora May 11th and 12th, 1988. For details phone Mr J. Hopkins (02) 436 3266.

*Sub-Tropical Orchid Council Expo 88*  
Registrations have been coming strongly, including over 100 from New Zealand. Thirty-three orchid societies have advised they will be staging displays, and there will be at least 14 trade exhibits. There will be three American, three Australian, and one New Zealand guest speaker. No funds other than those already raised by the societies will be needed to finance the Expo. All championship prizes and many others have been donated. For details contact Mr Jim Male, Iona Rd, Beerburrum, Queensland 4517 ●



# Phalaenopsis Orchid Culture BOB GORDON

(From *Culture of the Phalaenopsis Orchid*)

## General Cultural Requirements:

**Light.** Autumn, 1,500 footcandles (15 per cent of full sunlight) and 1,000 footcandles (10 per cent) the remainder. Phals need direct, but filtered sunlight. Reflected light will not do.

**Heat.** 60 to 85° throughout the year except three weeks in early autumn (northern hemisphere) when night time temperature should be lowered to 55° F.

**Water.** Do not allow pots to dry out. Keep medium moist, no matter what your cattleya-growing friends say.

**Medium.** Use quarter to half-inch bark. Avoid large, hard barks that are slow to absorb water. Seedling bark mix is satisfactory for plants up to blooming size. 102 mm pots should have at least six square centimetres of drainage holes. 152 mm should have at least 12 square centimetres of drainage holes.

**Air circulation.** In a greenhouse, provide gentle air movement constantly; increase velocity on hot days and cold nights. In the house no additional air circulation is needed.

## Cultural Problems:

**Pseudomonas.** *Pseudomonas cattleyae* is a water-borne, bacterial infection that kills phalaenopsis leaf tissue and, if it occurs in the crown, can kill the plant.

Leaves found to have the dark, wet-appearing patches should be cut off with a sterile tool. If the infection occurs in the crown, cross-hatch upper and lower surfaces of the infected tissue with a sharp, sterile tool and treat with Physan or Kocide 101. Do not allow water to be left standing on leaves at sundown. Spray with Physan and increase temperature and circulation to dry surfaces if wetness is unavoidable.

**Prevention:** Spray monthly during the winter with a solution of Kocide 101, a copper hydroxide compound with a metallic copper equivalence of 50 per cent (one half to one tablespoon per 4.5 litres (one gallon) of water). Do not acidify water used to mix solution.

**Pests.** Identify which and when pests attack your plants. Make recommended

treatment and mark a calendar with the information. The object is to head them off before they arrive next season and avoid using all pesticides all the time. Don't be afraid to use the recommended systemics: no evidence has surfaced to date to warrant the fearful reputation the systemic pesticides have had in the past.

**Root rot.** Root rot is usually caused by age of the plant, by deteriorated potting medium or by inadequate drainage provisions in the pot itself. Medium should be changed every 18 to 24 months for the commonly-used fir bark, depending on the hardness of the bark when potting. Nut-hard bark is the longest-lasting. Bark which crumbles in a strong pinch can be expected to last less than 24 months given normal watering and fertilizing.

Extra drainage holes as recommended above will extend the life of organic potting media, reduce or eliminate root rot, and eliminate penalties resulting from occasional overwatering.

**No flowers.** Failure to flower is most often caused by immaturity or poor health of the plant, overly warm night time, low temperatures during the autumn (in the northern hemisphere), or insufficient light, particularly during the autumn.

Blackening and wilting of the few centimetres at the end of a new flower spike can be caused by thermal shock from cold water during the winter. The answer is to heat the water to at least 60° F by adding a small amount of hot water to the stream used to water or fertilise plants. A reamed-out, syphon-type fertiliser injector is useful for this purpose.

**Conclusion:** Phalaenopsis orchids do not deserve the reputation they have gotten in recent years as being difficult to grow and to flower. They do have special needs, some of which are itemised above. Given these considerations, phalaenopsis orchids are as easy to flower as the most abuse-tolerant ones. Who among us does not have his or her eccentricities? Aren't you ashamed of yourself for not loving phals? ●



*Cymbidium Claude Pepper 'Lolly Pop'*

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# AUSTRALIAN NATIVE CYMBIDIUMS AND SOME HYBRIDS

Joan Burke

There are three species of cymbidium native to Australia. *Cymbidium suave* is smallest species of its genus in Australia; the growing range extends from southern New South Wales into northern Queensland, also Northern Territory.

This epiphyte is generally considered very difficult to grow in cultivation, usually persisting for only a year or so, then gradually dying away.

The author has a plant which somewhat gives the lie to the above statement, having been in her possession for almost 14 years. Also, the occasional fine specimen has been observed at orchid society meetings and shows, but this is the exception rather than the rule!

*Cymbidium suave* mostly grows in open forest in the hollows of eucalypt trees where its roots can penetrate deep into the rotted heartwood, to a length of as much as nine metres. This could be the main factor as to why this plant has such a limited life in cultivation.

The author's growing method consisted of placing the small plant of three leads into an 8cm soft black plastic pot, with rotted tree sides as the growing medium. Each time "potting on" became necessary the plant was "dropped on" into a larger pot with no root disturbance whatsoever, extra space being filled with more rotted heartwood. It is now contained in a 30cm pot, and at last lowering carried 28 flowering racemes. But she wonders just how much longer this harmer will thrive — it's distressing to see a plant nurtured for so many years start to go backwards!

*Cymbidium suave* stems are slender, pseudobulbless, with thin grass-like leaves to 35cm long. The flower raceme is semi to fully pendant with many flowers; light green, golden green or apple green. The stems continue to grow, and carry flowers, for many years, unlike other cymbidiums.



*Cymbidium madidum*

Photo: A.B. Porter

This species is very sweetly scented, filling the air with its delightful fragrance. Flowering season is August to October. Grow under 50 per cent shade in a shade-house, and water heavily during summer and autumn.

*Cymbidium madidum* is also epiphytic, growing in tropical Australia through the high rainfall areas. Pseudobulbs carry narrow leaves up to 90cm long; the sweetly perfumed flowers (about 2.5cm diameter) are variously golden to brown, carried on pendulous racemes. There can be up to sixty blooms on the one raceme.

Under cultivation this orchid grows reasonably well in glasshouse conditions (50 per cent shade) in a standard cym-

bidium mix. In southern states (Victoria and Tasmania) the main problem could lie in being able to over-winter this one successfully; in the author's experience it has been easy to lose a plant through "damping off".

The blooming season in the tropics is winter to spring. In the south of the continent it flowers spring to summer: its hybrids can thus provide a valuable late extension to the cymbidium flowering season.

*Cymbidium canaliculatum*, also known as the Banana Orchid because of its fragrant blooms, is as difficult as *C. suave* to keep going in cultivation.

Growers in some northern areas of the continent probably provide conditions more to its liking: in its natural habitat it is to be found from central New South Wales to Cape York in Far North Queensland, and across the northern part of Australia to north Western Australia, in the hot drier inland areas.

Pseudobulbs have narrow, thick leaves, 10-15cm long, rigid and deeply channelled; they are usually grey-green in colour. Flowers can be brown, purple, dull-red or green, and are variously spotted. Flowering time is September to November. The flower raceme can be pendulous to upright, 15-50cm long, and carry from 12 to 60 small flowers.

*Cymbidium canaliculatum* will grow in cold areas of Victoria in the warmest section of a cold glasshouse, in a position where it can get the benefit of all available winter sun. But as to flowering? If the plant grows, consider it a privilege to see the blooms of this northern cousin!

In warm to hot dry areas of the state it is reported that this orchid can be grown in the open garden; with almost full sunlight all year. Grow in rotted eucalypt heartwood and keep fairly dry through the colder months. High humidity for lengthy periods is a definite no-no; under these conditions it usually rots away.

In common with *C. suave* and *C. madidum* it needs protection from frosts. A list follows — though by no means a complete — of some hybrids using the fore-mentioned Australian cymbidium species. They are worthy of attention, and should provide

much interest in a collection. The difficulty may lie in locating some of them!

*Cymbidium suave* — Registered Crossings: *C. Evonne* (*C. Esmeralda* x *C. suave*) Cannon's 1973; *C. Scallywag* (*C. pumilum* x *C. suave*) K. Andrews 1969; *C. Sweet Devon* (*C. devonianum* x *C. suave*) D.M. Cannon 1982.



*Cymbidium canaliculatum*  
Photo: A.B. Porter

Recent Crossings: *C. suave* x Wyanga; *C. suave* x Voodoo; *C. suave* x Carisan.

*Cymbidium madidum* — Registered Crossings: *C. Darkie* (*C. Jean Brummit* x *C. madidum*) Ireland 1964; *C. Francis Hunter* (*C. madidum* x *C. finlaysonianum*) George Black 1973; *C. Green Cascades* (*C. madidum* x *C. Nila*) Santa Brbara 1982; *C. Hearts of Gold* (*C. madidum* x *Cloversheen*) Santa Barbara 1982; *C. Impish* (*C. madidum* x *Egret*) R. McLellan Co. 1963; *C. Kuranda* (*C. madidum* x *C. suave*) Greenoaks 1972; *C. Little Nugget* (*C. madidum* x *C. Greenwood*) Greenoaks 1974; *C. Madeline Madsen* (*C. madidum* x *C. Lucy*) Greenoaks 1972; *C. Mitzi* (*C. Angela* x *C. madidum*) Ireland 1963; *C.*



Pat Ann (*C. Apollo* x *C. madidum*) Ireland 1965; *C. Pee Wee* (*C. pumilum* x *C. madidum*) Ireland 1966; *C. Red Orange* (*C. madidum* C. Anna) Ireland 1964; *C. Scamp* (*C. Flirtation* x *C. madidum*) Ireland 1964; *C. Sweet Lime* (*C. Esmeralda* x *C. madidum*) Ireland 1964; *C. Sunshine Falls* (*C. King Arthur* x *C. madidum*) Stewart 1972; *C. Torette* (*C. madidum* x *C. Dorchester*) Ireland 1962; *C. Yellow Scamp* (*C. madidum* x *C. Balkis*) Ireland 1964.

Recent Crossings: *C. madidum* x *C. Negrito*; *C. madidum* x *C. Blue Smoke*; *C. madidum* x *C. mastersii*; *C. madidum* x *C. lowianum*; *C. madidum* x *C. Ora Lee*; *C. Flame Hawk* x *C. madidum* C. Peter Pan x *C. madidum*; *C. Mary Pinchess* x *C. madidum*.

*Cymbidium canaliculatum* — Registered Crossings: *C. Abundance* (*C. Lyoth* x *C. canaliculatum*) Greenoaks 1967; *C. Odyssey* (*C. Eagle* x *C. canaliculatum*) Stewart 1961; *C. Little Black Sambo* (*C. canaliculatum* x *C. madidum*) B.F. Copper Bronsdon 1964; *C. Penguin* (*C.*

*pendulum* x *C. canaliculatum*) Greenoaks 1968.

Recent Crossings: *C. Sarah Jean* x *C. canaliculatum*; *C. lowianum* x *C. canaliculatum* C. *canaliculatum* x *C. Volcano*; *C. Cricket* x *C. canaliculatum*.

All recent crossings have been noted from orchid establishment catalogues readily available.

*This article is an excerpt from an unpublished book by Joan Burke. ●*

### Play Safe!

"I try to arrange the application of insecticides just prior to my shower time as all exposed skin surfaces may be affected either superficially or by poison chemical intake. In the case of mist sprays breathing filter masks should be worn. Don't attempt to fumigate any growing area unless under expert supervision, and then avoid the area for as long as possible afterward whilst it is being ventilated".

Jim Cummings in  
*North Shore OS Bulletin.*

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# PLOIDY

## — SIMPLY EXPLAINED

David Wallace



Photograph taken through a microscope showing stages in mitosis in the root tip of a plant.

Orchid growers, especially the newer or novice grower when confronted with terms such as diploid, triploid or tetraploid can very easily be confused. These three terms pertain to Cymbidiums in the main.

A simple explanation of two fundamental processes which occur in cells is necessary for an understanding of the ploidy or chromosome number of an orchid plant.

These two fundamental processes are mitosis — cell division, duplication of the chromosomes resulting in plant growth and meiosis — the formation of sex cells, eggs and sperms which combine to produce a new individual.

**Mitosis.** This occurs in the growing points or meristematic tissue. During the process the nuclear material the chromosomes are



duplicated so that the two cells formed during cell division are identical in chromosome number and cell contents.

Cell division, mitosis, proceeds with great precision and is a very striking phenomenon. At the beginning the chromosomes which are in pairs shorten and thicken and become distinct entities within the cell. This is **PROPHASE**.

The next step in process is for the chromosomes to line up across the centre of the cell. At a point where the chromosome is constricted in a structure called the centomere. Small threads of protein material radiate from the poles of the cell, these are spindle fibres some are short and become attached to the centromere, others are continuous and join one pole to the other. This is **METAPHASE**.

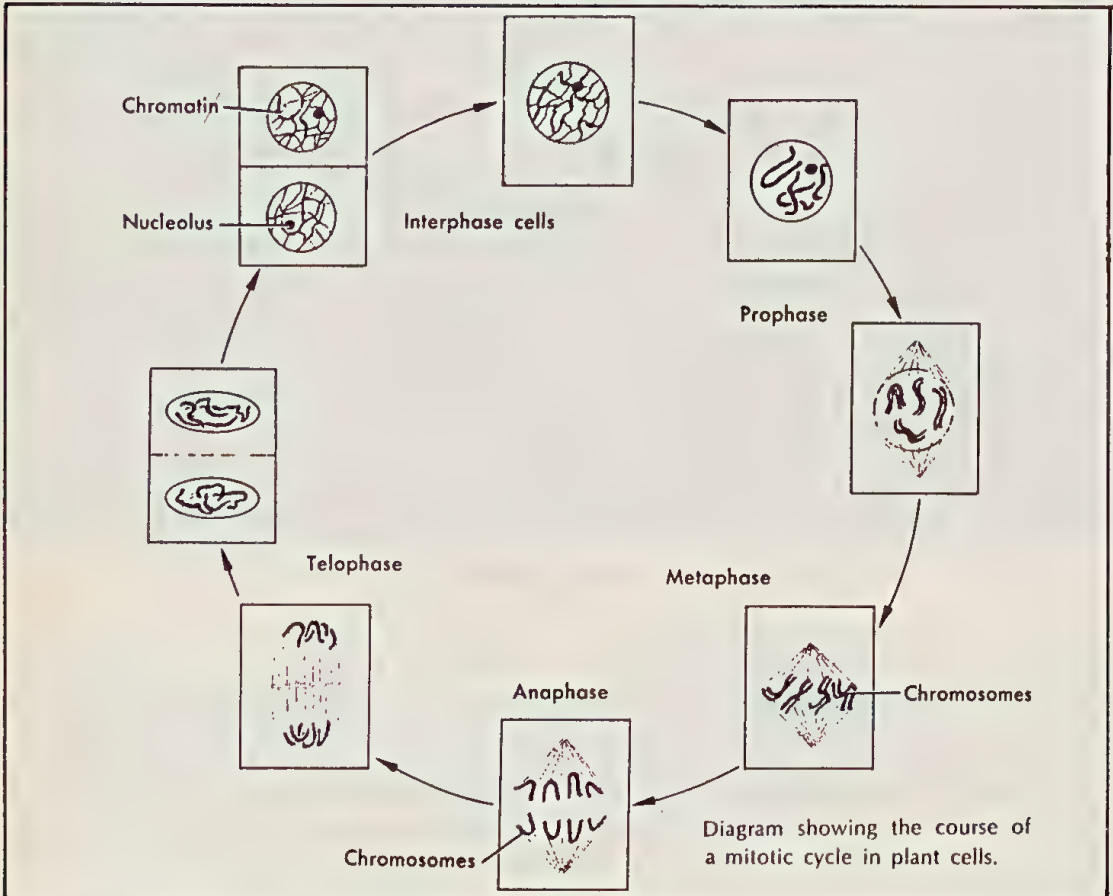
When the chromosomes are lined up across the equatorial plate the chromatin material is duplicated. When duplication has occurred the centromere divides and the spindle fibres shorten and draw the chromosomes to either pole of the cell. This is **ANAPHASE**.

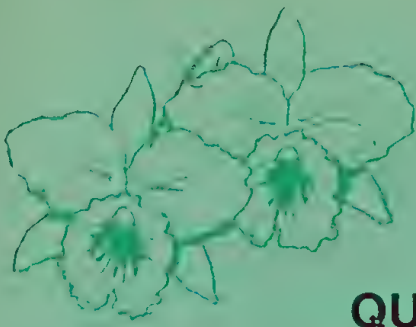
Rapidly after the arrival of the new chromosomes at the poles a new nuclear membrane forms and the chromosomes become thinner and cannot be discerned as distinct entities within the nuclear membrane. This is **TELOPHASE**. This is the completion of mitosis.

After mitosis new cell membranes and walls are formed and the two daughter cells grow in size by the absorption of water.

**Meiosis.** Reduction division, a process which occurs in sex cells where two divisions of the cell occur with only one division of the chromosomes.

The chromosomes in a normal body cell is an even number. They are arranged in pairs, one coming from the female parent and the other from the male parent. In meiosis the number of chromosomes in the resulting sex cells or gametes is half the number in a body cell. By this process the number of chromosomes in a species is kept constant. When fertilization of the egg by the sperm occurs the chromosomes of the new individual (seedling) produced is the same as both parents.





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**Ascds. Little Pasha 'Ono'** (115mm pots, \$15ea). Good shaped deep orange red with fine red spotting.

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**Chromosome Number (Ploidy)** Sex cells have half the number of chromosomes as the parent, this is the haploid number ( $n$ ). The parent cells contain twice this number of chromosomes,  $4n$  this is the diploid number ( $2n$ ).

The famous *Cymbidium* Alexander 'Westonbirt' has four times the haploid number,  $8n$  this is the tetraploid number ( $4n$ ). If a diploid *Cymbidium*, with  $4n$  chromosomes, haploid number  $2n$ , is bred with a tetraploid *Cymbidium* with  $8n$  chromosomes, haploid number  $4n$ , the resulting progeny will have  $6n$  chromosomes three times the diploid number in its cells, this is the triploid number ( $3n$ ).

Man has been able with the use of colchicine to upset the mitotic division of cells and produce tetraploid plants from diploid plants. This occurs because this drug stops

the cell from producing spindle protein, mitosis stops at Anaphase and consequently when the chromosomes have duplicated they are not moved to the poles of the cell and instead of the two new cells forming, one cell is produced with twice the number of chromosomes as the original treated cell.

It must be remembered that colchicine is very toxic to all living tissue. Because of this fact if the tissue that is treated is not washed thoroughly the mitotic process cannot proceed beyond Anaphase and the tissue may be killed ●

**References:**  
Plants — V.A. Greenlock & J. E. Adams. John Wesley & Sons 1962.  
Glossary of Botanical Terms U.N.E. Revised January 1963.  
The Principles of General Biology. Macmillan 1967.



Diagrammatic representation of the meiotic divisions of a meiosis parent cell with three pairs of chromosomes. One set of three is shaded; one is unshaded. a. Late prophase of the first or reductional division. b, c. Metaphase. Note that each chromosome appears as two chromatids in c. d. Anaphase. e. Telophase of the reductional division and beginning of the second or equational division. f. Metaphase. g. Anaphase. Chromatids are separating. h. Meiosis complete with formation of four meiosis spores.

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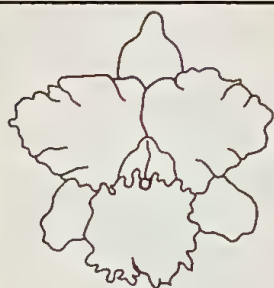
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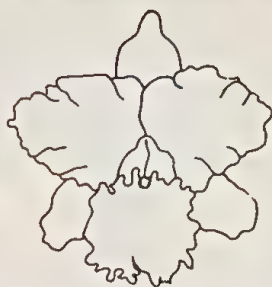
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# Elliott Wholesale Nursery



It is with regret that we wish to announce the sudden death of Les Elliot who died suddenly on Friday 16th October. We wish to assure our customers that business will be continued despite this unfortunate event.

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Dendrobium Kathryn Banks 'Northmead' Out of the same seed pot as 'Bicolor'. Still a very desirable clone.

# The Spider with a Pink Lip

David Banks

In the mid 1970's, I was fortunate enough to obtain half a dozen seedlings of a sibling cross of *Dendrobium tetragonum* var *giganteum* from Mr Noel Jupp of Riverdene Nursery. These were no normal plants however as both parents produced flowers with a distinctive deep pink labellum. But would these suffused lips come through with the seedlings? Luckily the answer was yes, as this colour in the labellum has proved very dominant. The Jupps made a number of other crosses with their clones of *D. tetragonum* var *giganteum*. Probably the most successful cross being the one with *D. x delicatum* to make *D. Kuringai*, of which the clone 'Bobin' is exceptional.

Around the time I received my plants, Sid Batchelor obtained a couple of these interesting spider orchids and upon flowering mated one clone with the popular and vigorous *D. kingianum* 'Betty' — originally collected by Ferg Martin. I remade this



*D. tetragonum* v *giganteum* 'Pink Lip' Photograph focusing on the unusually coloured labellum.



cross a couple of years after Sid using the same *D. kingianum* with one of my 'pink-lipped' tetragonums.

Upon flowering, it was very apparent that we had a new style of *D. Ellen* to contend with. Most of the plants of *D. Ellen* at the time were either the original 'Schmidts' cone or a remake using the normal *D. tetragonum* v *giganteum* made by Bob Deane. This new strain of *D. Ellen* produced flowers from pale green to pink with darker borders to the segments to deep pinks with dark blotches. They all had deep pink to purple labellums which contrasted with the rest of the flower. The plants are very vigorous, compact growers and above all free flowering. In fact it was not uncommon to have seedlings in two inch tubes, 18 months out of flask give a preview blooming.

So we move on. The forms of *D. kingianum* with white sepals and petals and mauve labellums have always caught my eye when in flower. Most people refer to them as *D. kingianum* var *silcockii* — which most people do not realise is an invalid name. Anyhow most clones of this 'variety silcockii' have mottled labellums with heavy veining but some degree of white. What I was after was a larger flower with white tepals and the solid purple labellum of the modern *D. Ellen*. So I mated them together to make what I was later to register as *D. Kathryn Banks*.

These produced a wide range of shapes,

sizes and colours. Most were pinks in various shades, all with deep solid labellums. Then I hit the jackpot and flowered *D. Kathryn Banks* 'Bicolor' — the clone I was looking and hoping for. A pure white flower with wide segments, great substance and texture, and the dark purple labellum. A number of noted orchid growers who have seen it claim it to be the finest *D. kingianum* hybrid they have seen. This clone will be later mericlone. Solid colour in the labellum of *D. kingianum* is rare. Two of the best of these being *D. kingianum* 'Lipstick' collected by Ken Russell and *D. kingianum* 'Tallai Redlip' collected by John Roberts in southern Queensland.

There is a great future ahead for native dendrobiums with contrasting labellums. A batch of 100 seedlings of *D. Hilda Poxon* (*D. tetragonum* v *giganteum* 'Pink Lip' x *D. speciosum* v *speciosum* 'Cindy') should start flowering Winter 1988. Remakes of *D. Star of Gold*, *D. Kuringai*, *D. Ellen* and more *D. Hilda Poxon* are in the pipeline, as are a host of other hybrids. Imagine plants of *D. Ellen* with a dark purple kingies such as *D. kingianum* 'Inferno' in their background.

We have only begun in this weird and wonderful world of hybridising native orchids. Grow some seedlings and join in the excitement. ●

*Hills District Orchids,*  
183 Windsor Road,  
Northmead. 2152 NSW

*Dendrobium Ellen*  
'Janine' One of the best  
seedlings out of the (*D.*  
*kingianum* 'Betty' x *D.*  
*tetragonum* v *giganteum*  
'Pink Lip') cross.



# Practical conservation with the use of orchid seed

The importation of orchid species is becoming more difficult and expensive because of various forms of legislation, the depreciation of the natural habitat, and the awareness of many countries for the conservation of their natural heritage of their orchid species.

The question of conservation of the orchid species in Australia is very familiar to orchid enthusiasts, and while we have many successful species, that is, their habitat is wide spread, there are a number of species whose future is very fragile, because of the specific nature of the habitat in small pockets, or the safety of that habitat presently depending on isolation and remoteness.

The A.O.F. Orchid Species Seed Bank was created because it was believed to be one of the more practical avenues of conservation and every effort should be explored that will encourage the commercial orchid nurseries to raise some orchid species from seed and ideally, for that Nursery to promote their sales as 'Nursery raised species'.

Being practical, the commercial grower would be very interested in those species which may be termed very desirable if the seed is available.

The purpose of this preamble, is to emphasise that there is an urgent need for the seed of these desirable species to the amateur as well as the commercial grower.

The A.O.F. Orchid Species Seed Bank seeks your co-operation to encourage your friends to "self" a few of these species as they come into flower. It is appreciated that the seed cannot be produced overnight. Many of the epiphytes will take 9 to 10 months to mature, and while many talk about conservation, here is a chance for you to do something really positive from the enormous amount of very attractive species that have been imported into Australia in the past decades.

A number of Members of the AOF have been regularly supplying seed, both native and exotic, to the AOF Orchid Species Seed Bank to their credit, making a creditable good list of the seed available, and this segment of the Foundation is attracting more and more attention from overseas orchid enthusiasts which makes our efforts most encouraging.

It is the desire of the Foundation to enlarge this list of seed being available, hence this appeal to you personally. Dry seed, rather than green pods is being sought to enlarge your friends to join our contribution of practical conservation of the orchid species.

Send seed and all enquiries for seed to: Mr Erhard Husted, 81 Darvall Rd West Ryde, NSW 2114 ●

## The Species Grower

"To be a species grower one has to try hard to learn about the species, as species make you an orchid grower. If you won't learn about them, you won't grow them. A collection of orchid species can be an asset because if you have an orchid species then everyone knows what you have. The same cannot be said of a hybrid." Said by John Bisset to the Queensland Orchid Species Society.

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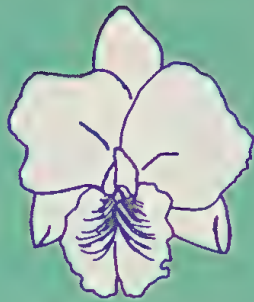


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- Blc. Bouton D'Or 'Lewis' x Blc. Waikiki Gold 'Lea'
- Bc. Mount Anderson 'Summit Snow' C. Earl 'Imperialis'
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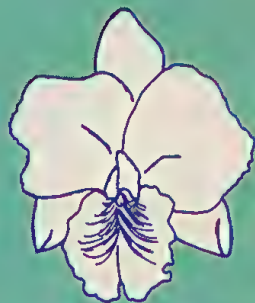
- Via Real 'Alexander'
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- Slc. Hazel Boyd #50 s Blc. Alicia Golden Dawn
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- C. Summer Stars 'May' x C. Queen Sirikit 'Diamond Crown' — florist white
- Blc. Oconee 'Mendenhall' x Blc. Frances Y. Hoshino 'Carteria Ruby'

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- Phal. Dawn Hunter x P. Gladys Read 'Snow Queen'
- Phal. Boogie Baby x Dtps. Lady Jewel 'White King'
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- Phal. Sarah Loeb x P. Romance 'Sweet Lisa'
- Phal. Lippeglut 'Pink Formal' x P. Romance 'Sweet Lisa'
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- Phal. Toki P62 x Phal. Doris

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# Pruning Cattleya Seedlings and Divisions

The vegetative parts of the cattleya orchid consist of the rhizome that grows along the top of the potting media, roots growing downwards from it and pseudobulbs and leaves growing upwards from it. At the base of each pseudobulb are usually two "eyes" (vegetative buds), one on either side. Growth occurs when one of these eyes grows a short distance forward, then turns upwards to mature into another pseudobulb and leaf.

This new pseudobulb then has two more eyes at its base like its predecessors. Very shortly after the new pseudobulb and leaf have matured, one of the new eyes starts to grow. This process is repeated indefinitely. Each new pseudobulb and leaf are bigger and stronger than the previous ones and, in the case of seedlings, blooms should occur on the fifth to eighth growth. This does not always happen. In fact, it rarely does unless you help the process along.

Notice that in the preceding paragraph I talked of each pseudobulb having two eyes. I do not know why there are two (though the second eye is no doubt a safety factor) for in the case of seedlings, one is enough. When both eyes "break" (start growing) the two pseudobulbs and leaves that result are little, if at all, larger than the previous ones. If a plant has not advanced towards blooming, one growth cycle has been lost.

Suppose a seedling has produced five growths, one at a time, each out of the previous growth. At this stage it has two eyes on the last growth, and four other eyes further back in the rhizome. If the seedling puts out one growth from the last pseudobulb, it probably will bloom on that growth. If, however, the seedling puts out two growths from the last pseudobulb and one (or more) growths from eyes back down the rhizome somewhere, these new leads will usually be inferior growths and probably will not produce blooms.

This would not be bad if the process stopped there. You would get blooms perhaps a year later, but you would have the rhizome branching and consequently a larger plant and more blooms at blooming time. Frequently, however, the plant will "break" eyes all over and you will wind up with a pot full of spindly green pseudobulbs and leaves.

It should be obvious how you can help the seedlings to bloom. When extra eyes start to grow, break them off. This takes courage and determination, but, if you intend to grow seedlings successfully, you have to do it.

The same principle holds true for newly-potted divisions, and, to a certain extent for adult cattleya plants. To produce blooms in as short a time as possible, only one eye (and that from the last pseudobulb) should be allowed to grow until a new division has bloomed.

After a seedling or division has bloomed for the first time, the number of eyes allowed to grow can gradually be increased. A large healthy plant seldom puts out more eyes than it can support adequately. However, if you have any cattleyas that grow but don't bloom, check to see if they are putting out too much vegetative growth.

From the Redlands Orchid Society  
Newsletter ●

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# IS CCA TIMBER SAFE?

The use of timber treated with copper-chrome-arsenic has become common. This treatment gives the timber a greenish tint and also makes softwood extremely durable.

Importantly, is it safe to use in the construction of an orchid house? Safe for you and safe for orchids?

Each of the three components in CCA is soluble in water, but in combination they interact to become virtually insoluble. The arsenic in CCA-treated timber is in a form that is relatively non-toxic and readily excretable.

In the USA treated timbers have been in use for fifty years with no record of hazards from ordinary use. In fact scientific tests have established it as safe for children's playground equipment.

When new treated timber may show signs of a whitish powder. This is mainly sodium sulphate, a harmless chemical.

Continual handling of such timber is not likely to be hazardous but it is advisable to wear gloves and avoid smoking, and wash hands thoroughly afterwards.

Care needs to be taken when sanding timber because inhalation of the sawdust can affect the lungs. This also applies to ordinary sawdust, although not to the same extent. If using an electric sander it is important to work in a well-ventilated area, and wear a protective mask and clothing, including gloves.

CCA-treated offcuts should not be burnt. Inhalation of the smoke and fumes can cause discomfort or illness because the heat results in the release of free arsenic.

If burnt in confined areas there is danger of inhaling carbon monoxide and other smoke-borne substances. NEVER use the treated wood in fireplaces or stoves, or for barbecues.

Should the burning of offcuts be the only feasible method of disposal then burn only small quantities at a time in the open air and be careful to avoid the smoke. Bury the ash

deeply where it will not affect water supply or plants.

If handled correctly CCA-treated timber can be used for building orchid houses and should last a lifetime.

Another way of increasing the life of timber is to use creosote. This is dangerous for orchids and could be for you, too. Creosote contains arsenic and will cause skin irritation, and fumes from it will affect the lungs if inhaled. Used on the timbers in an orchid house it will give off fumes over a long period which are detrimental to the plants ●

## COCKROACHES COCKROACHES

They can really make a mess by chewing large chunks out of your flowers at night — to prevent them make sure the bush house is kept free from nice little hidy holes and try to ensure that there are no holes in the shade cloth for them to come in. Alternatively bait is available — ask your nurseryman what is best. Or you can make your own brew. All you need to repel cockroaches is 85 grams (3 ounces) of chopped garlic bulb mixed with two teaspoons of liquid paraffin.

To make: Soak this mixture for 48 hours, add ½ litre (1 pint) of water and mix well with 7 grams (¼ ounce) of a good oil-based soap, filter through a stocking and store in a glass container. To use, dilute one part to 40 parts water. Another home-brew is a 50/50 mixture of borax and icing sugar scattered in moisture proofed areas of the house for unwary ants and cockroaches.

**Ipswich OS Bulletin**

# Simon Lenkic Orchids

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(Superb shape rich pinks, high flower count, Aug, Sept)
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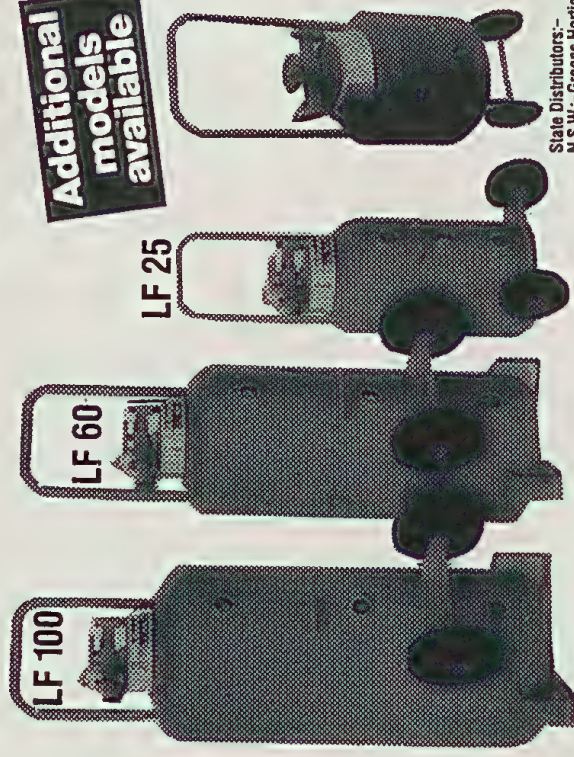
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# MUCH BINDING IN THE MARSH (Appologies to BBC)

Peter Tonelly

Lindsay Bourke asked "What's green, lives in the marsh, reaches a height of 20 cm and appears in January?" "A frog on a roller-coaster attending summer camp!", I replied.

Seriously, what he was in fact referring to was a species of *Pterostylis* which he and fellow orchid-grower-plus-fisherman, Ross Smith, had accidentally discovered along the shores of Woods Lake during the alpine spring of 1984.

Bursting with curiosity, I agreed to accompany them to the site in early February, to hopefully again track down these plants and establish their identity.

We left Arthurs Lake after an overnight stay soon after breakfast, and headed towards Woods Lake along the worst excuse for a "road" I have ever ventured along in a four-wheel drive vehicle. An hour later, the only thought my numb brain and b — could absorb was the dreadful reminder that we had to return via the same bone-shaking route.

However! All was soon forgotten, for whilst crossing the great marsh meadow of Patterson's Flats, we walked upon a magnificent colony of Ladies' Tresses orchids, *Spiranthes sinensis*.

Soon we began to enter a strangely-vegetated canopy of swamp-loving eucalypts and native bottle-brush with beautiful green-yellow flowers (*Callistemon viridiflorus*), with an eerie lichen hanging from the branches. Certainly a strange and unique habitat, and as Lindsay remarked at the time, "Much like the Florida Everglades".

There they were!! The very orchid we hoped to find — the large, delicate Sickie Greenhood — *P. furcata*, syn. *P. falcata*. It's not hard to see why in the past that this defined species has been confused with the coastal-flowering *P. culcullata* — both flowers are somewhat the same size, although

the galea features are quite different. Most reference books state as "... rare in Tasmania, suited to damp, shady area".

As a bonus, on the return trip we located the Summer Greenhood, *P. decurva* along with the Parsons Bands Orchid, *Eriochilus cucullatas*. Ross would insist on referring to them as "Parson's nose orchids" — probably a side effect of the great amounts of barbecue chicken consumed over the weekend. He had a fancy for the "last bit over the fence". Great fun was had by all.

*Devonport OS Bulletin.* ●



## Mother's Day

### MINI CYMBID. SEEDLINGS

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1. Peter Pan 'Greensleeves' 4N x Mayleen — This cross aiming at % of whites with others ice green.
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# SOCIETY NEWS

## NEW SOCIETY AT DARWIN

Advent of the Litchfield Orchid Society brings the number of Northern Territory societies to three.

Meetings are held on the first Tuesday of the month, commencing at 7.30pm. Venue is the Rural Old Times Hall, Bee's Creek Road.

President is Gary Read, with Ray Arnold as treasurer. Shirley Halls is secretary and may be contacted by phone on (089) 32 2572, or by mail to P.O. Box, Palmerston 5787.

Visitors will be made to feel very welcome. A.O.R. looks forward to reporting the activities of this tropical group.

Incidentally Darwin was founded in 1869 under the name of Palmerston. To day its an exciting town to visit.

## SPECIAL EDITION

The Mount Gambier Orchid Society recently recorded appreciation of the efforts of their Newsletter editor, Miss Mavis Franklin. Mavis has now produced over 100 issues. For most of the period she was also secretary. The Newsletter is packed full of information.

## ORCHID PEOPLE

For the first time in the 60 year history of the Victorian Orchid Club two ladies have been awarded Life Memberships. They are Mrs Illa Hutchins and Mrs Majory Vines.

Both have made outstanding personal contributions to the club. Illa has been a most efficient secretary for many years. Her work contributed to the success of the 1984 Australian Conference.

Maj Vines has worked solidly for the club for many years and with her husband has been prominent in exhibiting. Husband Len was awarded Life membership some time ago so this makes them the first husband and wife team of Life Members.

## O.S.N.S.W. LTD LIFE MEMBERSHIP

September 1987 was a very happy day for Mr Barry Collins. At the meeting of The Orchid Society of New South Wales Ltd: Life Membership was conferred on Barry.

He was a member for 25 years and has served on the Committee as a Committee member, Show Marshal, Vice President and President 1972-75. He is at present Publicity Officer for the 11th Australian Orchid Conference.

Congratulations Barry.

## GLADSTONE INVADED

But only in a kindly way by Frank and Ev Williams who a few months ago went all the way to Gladstone from Maryborough to talk to the good folk at Gladstone Orchid Society. Frank and Ev make up one of the best husband and wife teams of orchid growers around. Their orchid collection is as famous as their hospitality.

## PRACTICAL SPECIES SUPPORT

The Orchid Species Society of Victoria is ensuring conservation of orchid species by propagation in very practical fashion.

In 1986 the members established a society glasshouse in the grounds of Nunawading Horticultural centre in order to create a permanent collection species, particularly those endangered and those of special botanical or historical interest. The collection is available for research and seed is produced for flasking.

At last report the Society had 157 plants in the collection, all of them donated by members. There is plenty of room for more in both the hot and cold sections of the house. Purchasing of flasks from overseas is now in hand.

# SOCIETY NEWS

The Society also maintains a quarantine house which is constantly in use by members. Importations range from as few as three plants to as many as 400, the latter a bulk society order from Thailand. Over 12 months there were 31 importations from nurseries in Germany, Brazil, Indonesia, India, Thailand, and Japan.

A fact the Society is proud of is that the Quarantine Section of the Victorian Department of Agriculture uses the house as a model to people wishing to know how a quarantine house should be set up. They have also shown it to officials from other countries when explaining quarantine regulations.

They have found that the survival rate in quarantine largely depends upon where the plants have come from and their condition on arrival. With some sources the loss is minimal, with a few it has been high.

Some sources can be expensive and experience in cost and quality plus survival rate will undoubtedly yield future benefits.

The Society meets at the Nunawading Horticultural Centre, Jolimont Road, Forest Hill, on the second Monday of each month. A very interesting Journal is distributed to members.

## GARDENS IN TIME

This wonderful concept "Gardens in Time" took place in Adelaide during the four weeks 20th October to the 20th November, 1987. Adelaide's major libraries, galleries, the National Trust, booksellers, nurseries and owners of gardens joined together to celebrate the history of gardens and gardening.

Events took place in some of Adelaide's most beautiful and historical buildings, as well as in gardens and nurseries in the surrounding countryside.

At many historical homes special lectures took place and gardens were open for inspection. At Old Parliament House there

was an exhibition in the Palm Courtyard entitled "Politics and Plants".

There have not yet been any reports of orchid involvement in proceedings but there was bound to be some, even though it may only have been a mention during the lecture on "The life and times of the second director of the Botanic Gardens, Richard Moritz Schomburgk". The orchid genus *Schomburgkia* is named for him.

## NEW CLUB AT WARRNAMBOOL

The newly formed South West Victorian Orchid Club is centred at Warrnambool, a port serving a rich farming area and many industries. The president is Mr Phillip Aitman of Riverview Terrace, Warrnambool. Meeting night is the first Thursday of each month. Visitors will be very welcome, experienced speakers particularly so.

The secretary is Mr R.H. Metcalfe, 8 George Street, Warrnambool, 3280. Let him know you are coming.

## BHP Pursuit of Excellence Awards

At least two prominent orchidists have been nominated for a BHP Award. The Awards are designed to recognise people from a wide range of backgrounds whose efforts may have gone unrecognised outside their special area of endeavour. There are six categories, each of which carries a \$40,000 prize.

In 1984 Mr Kevin McFarlane of Cairns was among the six finalists in the Rural Development category for his work in orchid hybridising.

Mr Lou Sasso of Sydney has been nominated in the Rural category for this years awards.

"Lou has made the art of orchid growing a



# SOCIETY NEWS

science, winning an international reputation for Australian orchid growing", his wife Malveena said of him recently.

Mr Gerald McCraith of Melbourne is the other nominee. Gerald is well known as the Director and a founder of the Australian Orchid Foundation. Gerald has instigated many educational and scientific projects concerning orchids, and has demonstrated expertise in management and leadership, concern for the environment, skill in plant breeding, and written widely on culture. He is Australian member of the International Orchid Commission, and correspondent for the English *Orchid Review*.

## VALE

### HERBERT EDWARD FOOTE

Herbe Foote passed away at 11 am, Friday August 7, 1987, and it was with great sorrow that we said goodbye to our good friend who gave us his unselfish friendship, advice, expertise and the warmth of his companionship.

Herb Foote joined the Orchid Society of Western Australia (Inc) on 20th June, 1958, and was Secretary 1959-1960, then to Committee in 1962, was made Vice President in 1965 and President from 1967 to 1969, in which year he led the O.S.W.A. at the World Orchid Conference in Sydney, and most of the credit must go to him for the winning of a Gold Medallion for the Society, for the best Interstate Society Display.

Recognition of work for the Society resulted in the granting of Life Membership of the Orchid Society of Western Australia on 26th November, 1971.

Herb achieved and accomplished many skills in his 77 years on this planet. As a grower of orchids he was the Master in most

genera, excelling in cattleyas, cymbidiums and oncidiums and his native orchid collection was grown to perfection in natural surrounds at his residence in the hills at Forrestfield.

Photography was his forte, and the artistic side of Herb was expressed in Water Colour Landscape Painting, Copper repocée work and Calligraphy.

Herb was founder of the Western Australian Native Orchid Study and Conservation Group (Inc) of which he was the President for many years.

This Group will always be indebted to his successful efforts to establish and foster the awareness of the need for conservation of Terrestrial Orchid Species in Western Australia, and the mention of this Group, and of terrestrial orchids in W.A. will always bring to mind the name of Herb Foote.

*H. Lodge*

### The late Herbert Foote

A.O.R. has received other reports on the late Herb Foote, a particularly feeling one from his friend and associate Mr John Foley. I first met Herb at the 6th World Orchid Conference and at other conferences since. Over the years we corresponded it was a delight to receive his letters. Not only for their great interest but in admiration of their beautiful calligraphy. His Christmas cards were a delight. My wife would always get a thrill from handing me his beautifully addressed envelopes and saying: "Another letter from Herb Foote". We were both indeed fortunate to spend a wonderful day with Herb and his wife at his home "Foothills" in October, 1986. We will miss something very special this Christmas. We feel for Mrs Foote in her sad loss.

*Ronald Kerr*

### FAREWELL STAN BROCK

Townsville orchid growers, in fact growers everywhere, suffered a sad loss in early February with the demise of Mr S.R. Brock. For just over 40 years Stan had

# SOCIETY NEWS

been growing orchids in Townsville and passing on his experiences and knowledge freely and willingly to others. Before that he had been in Rockhampton (where he was born and bred) Brisbane, Maryborough and Mackay. His reminiscences of the old growers in those centres were always interesting.

We know him for his interest in orchids and plants but he will be missed in other circles for he also collected minerals, shells, bugs and beetles. Some of his insects were new to science when he discovered them.

As an orchidist Stan was a species man. He believed that the species was the perfect flower and very few hybrids earned a place in his collection. His photographs were always good, his books well read and cared for and his plants in immaculate condition. Of course his family received the same attention and after 56 years of married life he and his wife Flo had good reason to be proud of their three children to whom orchid lovers extend their sympathy.

## Ron Williamson

There would be very few orchid growers around Australia who have not heard of Ron, either through his Orchid Nursery, or for his work that he did as an office bearer of the Queensland Orchid Society.

Ron came into the orchid world in 1963 after retiring from a career in the Australian Army. Ron's last station was at Gaythorn where he was Warrant Officer 1 B.O.D. He immediately displayed his willingness and great ability to help in any way he could to assist the workings of the Q.O.S.

Among the positions he held in the Q.O.S. were the Honorary Secretary which he held for many years and Chairman of the Show Committee. He was Q.O.S. judge and for some time Judging Registrar. He gave much time and travelled far to the many Judging Classes he ran throughout the state. He was also the Treasurer of the Australian Orchid

Council for a term. Another area where Ron played a large part was as Secretary to the Planning and Working Committee for the First Australian Orchid Conference that was held in Brisbane.

I honestly believe that Ron put his Nursery business second to the activities of the Q.O.S.

It is only a small group of us who worked with Ron who really knew just how much time and effort he put into the activities of the Q.O.S. and its affiliated societies.

No one will deny that Ron was very outspoken and upset a few people but that was only in the course of getting things done.

For his work and efforts he was made a Life Member of the Q.O.S. in 1974.

Ron we will miss you — but always remember you.

Ron passed away 1st September 1987.

*Jim Mackinney*

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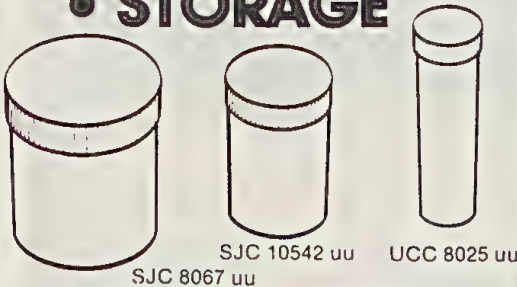
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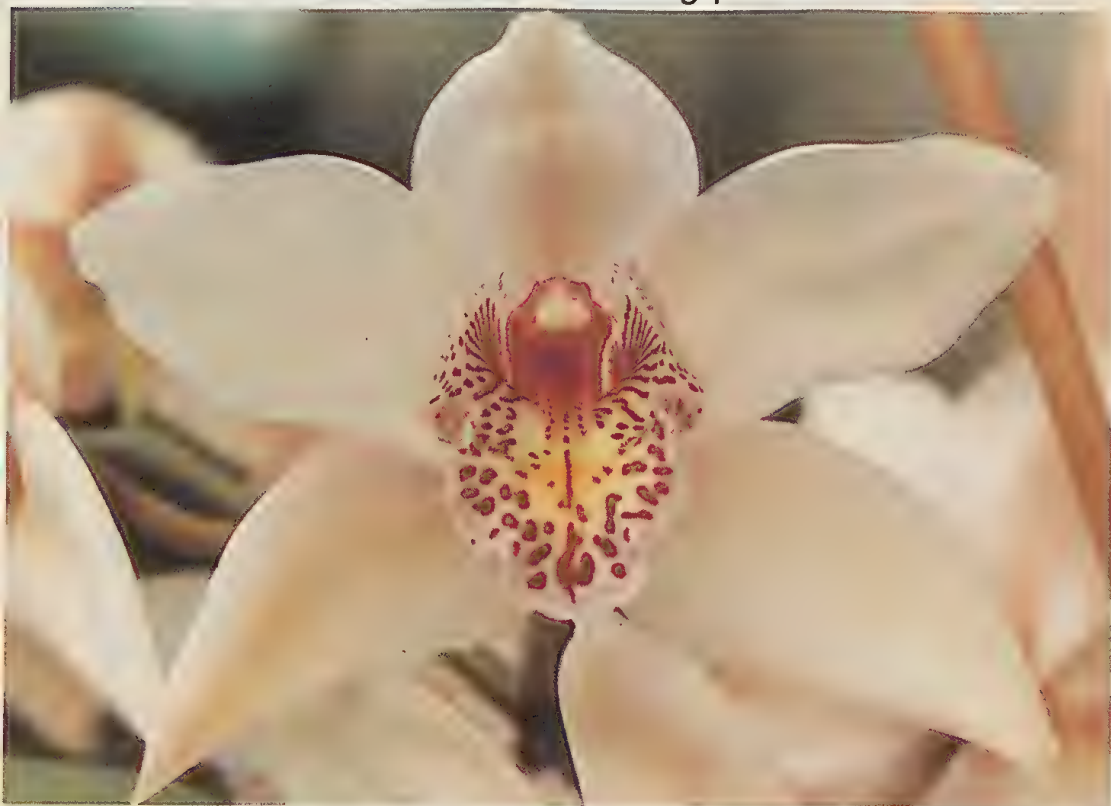
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